THE CHILD ATTACHMENT Q-SORT: DEVELOPMENT, TRAINING, AND VALIDATION

ATHENA TSIOKRIS

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I, Athena Tsiokris, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

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Acknowledgements

Completing a PhD is a difficult task, applying to one enormous pressure both to self and to the immediate environment. It is probably one of the most stressful experiences that the self encounters in working life. For this reason, the task cannot be completed unless one has absolute and full determination to it and is a recipient of maximum support from one's immediate environment.

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Abstract

The present thesis describes the development of the Child Attachment Q-sort (CAQ), an alternative approach to assessing quality of attachment in middle childhood, currently offered by the Child Attachment Interview (CAI). Although, the same semi-structured interview is used to activate the attachment system of the child and elicit the information necessary for coding, the CAQ departs in the method used for coding and classification. It differs in that raters are required to use Q-sorting to assess the attachment classification of each child based on direct and specific observations making it more behaviorally based rather than inferential. Further, the training system of the CAQ was designed with the intention of requiring limited formal training and attachment knowledge, thereby increasing its usability and application in both research and potential clinical settings.

Furthermore, this method provides the opportunity to develop a standard language for attachment classification in middle childhood, whereas the language used in the CAI coding system is at an advanced conceptual level. Overall the CAQ attempted to simplify the process and retain classification at the observational level, offering an alternative approach to assessing attachment and contributing to a new way of thinking about it, while also making it available to a wider range of professionals. The psychometric properties of the CAQ were assessed by examining the reliability across various coders and samples and the main findings are reported. All major aspects of validity of the CAQ were assessed and the findings are presented.

Overall the findings support the notion that the CAQ could be used as a reliable and valid instrument for measuring attachment in middle childhood.

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Chapter 1: Attachment Theory and Attachment Measures

1.1. The Origins of Attachment Theory – A Brief Overview

Attachment theory was initially developed out of the object-relations theory of psychoanalysis. However, the work of John Bowlby (1988/2005) led to deviation from this tradition and to the adoption of a multidisciplinary approach that did not rely on explaining the bond between child and caregiver in terms of dependence and overdependence. Particularly influential in giving birth to this theory was the observation of the distress experienced by children placed in a strange environment with unknown people and the subsequent results this had when reunited with the parents.

Attachment was conceptualized as a behavioral control system that has its own motivation system that is distinct from that governing feeding and sexual behaviors. Furthermore, individual differences observed within this system are a function of the internal working model each individual holds of the self, other people and the world in general (Bretherton, 1985). These internal working models are mostly informed by the way a child is treated by attachment figures (Bowlby, 1988/2005), thus appropriate parenting is of paramount importance as it sets the foundations for upward spiraling development.

This section will present a brief overview of the origins of attachment theory through mainly through the work of Bowlby and Ainsworth, followed by the evolution of attachment theory and in particular the attachment behavioral system, the phases of attachment and internal working models.

1.1.1. The work of John Bowlby.

During the 1930s and 1940s Bowlby focused his research on the effects of maternal deprivation, supporting the view that the bond between a mother and child formed the foundation for all subsequent social development and that institutionalized children exhibiting delinquent behavior had not experienced a lasting emotional relationship with a mother or substitute mother figure. From these early writings, Bowlby (1939) had begun to support the notion that a bad home is better than a good institution.

In 1944, Bowlby published a seminal paper describing his study of *44 Juvenile Thieves*, where he compared a group of 44 children clinically referred for stealing to a control group referred for problems unrelated to stealing. The thieves were classified according to their character type. Only two were diagnosed as normal, the remaining 42 had abnormal characters. Fourteen of the abnormal characters were diagnosed as Affectionless, defined as lacking "normal affection, shame or sense of responsibility" (Bowlby, 1944, p. 44). He drew particular attention to the affectionless group of children for the following reasons:

- this diagnosis was unique to the group of thieves and not found in the control groups;
- the children exhibited "remarkable lack of affection or warmth of feeling for anyone";
- most did not have friends and the few that did had "no emotional ties with them";
- "there were no roots in their relationships";
- the children were not capable of attachment, affection or loyalty;
- reviewing the history of these children, most "suffered the complete emotional loss of their mother or foster-mother during infancy and early childhood";
- he described these children as "delinquent characters" most likely to become recidivists (Bowlby, 1944, p. 38).

Forty percent of the thieves had experienced early and prolonged separation from the mother, compared to only five percent in the control group. Eighty five percent of Affectionless personality types had experienced an early and prolonged separation, whereas only five percent of the remaining group had a similar experience. From these findings Bowlby concluded that "prolonged separation of a child from his mother (or mother-substitute) during the first five years of life stands foremost among the causes of delinquent character development and persistent misbehavior" (1944, p. 113). No other researcher prior to Bowlby had placed so much weight on early separation and delinquency.

As Bowlby himself acknowledged, these results were based on retrospective observation, whereas work by Robertson and Ainsworth focused on the importance of direct observation. After the war, Robertson conducted detailed observations of

hospitalized children with parental visitation limits and showed that this separation was devastating to the children (Robertson & Bowlby, 1952). Ainsworth conducted a follow up study of Robertson's work and made a striking finding that upon returning home, a small number of children maintained a state of Affectionless detachment and only a small number were able to become Securely attached to their mother (Robertson & Bowlby, 1952).

Ainsworth further assisted the development of attachment theory with the research she conducted in Uganda by observing mothers and infants at home over a period of nine months and noting particular behaviors during their interactions that pointed towards the development of a bond between them. Based on these observations she classified children as Secure, Insecure and Non-attached (Ainsworth, 1963). Ainsworth continued her study of the infant-mother relationship in a more systematic way in Baltimore. Home observations were supplemented by observation of the mother-child dyad in the controlled environment of the university laboratory. To assess this interaction in the laboratory – an unnatural environment – Ainsworth developed the Strange Situation Procedure and a classification system that continues to be widely used today in the field of attachment (Karen, 1990; Barrett, 2006). The Strange Situation Procedure will be described in detail in the next section.

1.1.2. The attachment behavioral system.

Bowlby provided a coherent narrative that gave birth to attachment theory by adopting information from the disciplines of psychoanalysis, cognitive and developmental psychology, ethology and cybernetics (Hinde, 2005; Holmes, 2005; Howe, Brandon, Hinings, & Schofield, 1999).

Attachment theory was based on the hypothesis that attachment behavior is directed by a control system within the central nervous system, analogous to physiological homeostasis, whereby the attachment control system monitors a child's distance and proximity to an attachment figure within certain limits much the same way the human body monitors blood pressure and body temperature (Bowlby, 1988/2005). Therefore, attachment was conceived as a component of a behavioral system that works to keep a steady state between the child and its environment. If the child feels safe it will explore within fair distance, but if frightened, the attachment system will activate the child to seek proximity to its attachment figure for protection. However, Bretherton (1985) cautions the reader to understand that

although the evolutionary function of attachment may be environmental homeostasis, the actual experience of the attached individuals is a *psychological tie* to the attachment figure, who provides a secure base and haven for the child.

As best described in the words of Bowlby (1988/2005):

> Attachment theory regards the propensity to make intimate emotional bonds to particular individuals as a basic component of human nature, already present in germinal form in the neonate and continuing through adult life into old age. During infancy and childhood bonds are with parents (or parent substitutes) who are looked to for protection, comfort, and support. During healthy adolescence and adult life these bonds persist, but are complemented by new bonds, commonly of a heterosexual nature. Although food and sex sometimes play important roles in attachment relationships, the relationship exists in its own right and has a key survival function of its own, namely protection…the capacity to make intimate emotional bonds with other individuals…is regarded as a principal feature of effective personality functioning and mental health. (p. 136)

Therefore, this system can be viewed as a "goal corrected control system" (Bretherton, 1985, p. 6) – if observed by a third person – whose set goal is to adjust behavior that is designed to preserve or achieve proximity to preferred attachment figures. However, from the perspective of the attached individual, the set goal is feeling secure (Bischof, 1975 as cited in Bretherton, 1985). From a biological perspective the function of attachment is protection from physical and psychological threats.

1.1.3. Development of attachment in early childhood.

From the work of Bowlby, attachment behavior can be described as gradually appearing and molding into organized patterns, phases of development, during the first few years of life.

1.1.3.1. Phase I: Pre-attachment (birth).

This first phase occurs when a child is born, it shows no particular preference towards any caregiver but is interested in stimuli that trigger the senses (sound, smell, touch and vision) and shows a tendency toward social interaction that for the most part is reflexive and not intentional (Barrett, 2006).

1.1.3.2. Phase II: Attachment-in-the-making (6-12 weeks old +).

During the second phase of attachment the child becomes more dependent on specific individuals and by the end of the first year most infants form a close relationship with their primary caregiver and a few other specific persons. The baby starts to direct attachment behavior towards these select individuals and they are more effective at soothing the child when in distress. A hierarchy may begin to emerge, where the child has a particular preferential order of who it will turn to first when upset (Barrett, 2006).

1.1.3.3. Phase III: Clear-cut attachment (7 months old +).

During the first few months of life, an infant displays responses that will later become attachment behavior, but an organized pattern of attachment does not develop until about 1.5 years of age (Bowlby, 1988/2005). During this stage, when a baby feels secure it is able to explore its surroundings and tolerate moving away from the attachment figure. However when frightened, anxious, tired or unwell the baby will seek proximity to its caregiver. This pattern of interaction was initially observed and described by Ainsworth (1967) as exploring from a secure base. A healthy child feels secure enough to explore if the parent is available and reliable if called upon. As Kagan (1984), aptly describes this interaction, the power of the caregiver "to mute anxiety includes the child's assumption of her availability" (p. 51). Initially these explorations are brief both in terms of time and distance, however by 3.5 years old the child becomes able to tolerate increased time and distance from the primary caregiver (Bowlby, 1988/2005).

From about nine months onwards, most children protest and cry when left with a stranger, continued by prolonged complaining and rejection of this person. According to Bowlby, this indicates that the baby is slowly developing the ability to hold a mental representation and working model of the caregiver in mind for purposes of comparison during separation and recognition when the mother returns. At this stage, children slowly begin to understand that although attachment figures are not present, they are still available. Gradually, the formation of internal working models begin, although not well integrated because the child is still in an exploratory stage where expectations are still being discovered as well as the limited ability to sequentially hold memories in order. During this phase, the memory storage of

intense interactions has begun, as has the ability of the child to form mental representations of the self and the caregiver (Bowlby, 1988/2005).

1.1.3.4. Phase IV: Goal-corrected partnership (4 years old).

This stage begins when the child is between 3 to 4 years old and is beginning to develop theory of mind, meaning that he/she has the mental capacity to think about his/her own feelings and experiences and the feeling and intentions of other individuals. Goal corrected behavior begins to emerge from the previous phase, but it is now "more highly informed by expectations based on previous patterns of social experience" (Barrett, 2006, p. 50). Stored memories of intense experience with attachment figures are now becoming more organized and forming into internal working models, in other words the child holds mental representations of interactions of itself with other persons. These begin to form the foundation for children's evaluation of social situations (Barrett, 2006).

1.1.4. Patterns of attachment.

The natures of the child's interactions with the attachment figure will determine the type of attachment pattern that will be adopted by that child. Attachment patterns fall into two broad categories of Secure and Insecure and the latter has three subcategories of Avoidant/Dismissing, Ambivalent/Preoccupied (Ainsworth, Blehar, Waters, & Hall, 1978) and Disorganized (Main & Solomon, 1985). The behavior adopted by the child makes sense within the particular interactions between that child and its attachment figure. Ainsworth (1985) characterized this as a "defensive maneuver" developed by the child to cope with stress and anxiety (p. 779). The attachment system enabled the child to seek comfort and security in such circumstances by seeking proximity to the attachment figure; however, if this cannot be achieved, alternative psychological strategies are employed to address the anxiety and achieve increased proximity to the attachment figure.

1.1.5. Internal Working Models (IWM).

The attachment pattern adopted by each child is maintained by the internal working model build to represent the ways the mother communicates and behaves during interactions with the child, complemented by the analogous internal working model for the father and self built during early years of life (Bowlby, 1988/2005).

According to Bowlby a child does not assess the safety of a situation and the availability of an attachment figure each time he/she approaches a novel situation (1969/1997). The myriad of daily interactions that the child has with the world contribute to the constructions of internal working models (IWMs) representing the world, other people and the self. The complexity of these models increases by age (Bowlby, 1969/1997; 1973/1998; 1980/1998). IWMs help the child assess and guide its responses in new situations. For example, if the constructed IWM of the child represents the attachment figure as responsive and supportive when needed, the child will not feel the need to constantly monitor the location of the attachment figure. Conversely, if the IWM represents a caregiver that is inconsistent and unsupportive when the child is in need, then he/she will anxiously monitor the whereabouts of the caregiver continuously (Bretherton, 1985).

After IWMs are built they tend to be lasting structures that operate at the unconscious level. However, there are differences in the ability of Secure and Insecure children to update these models. A Secure child is able to integrate new information of interactions with caregivers as he/she grows older and parental behavior changes. However, an Insecure child cannot tolerate and integrate this discrepancy in information. Therefore, these patterns of interaction persist unchanged and even at an older age when the individual encounters social interactions and behavior towards him/her that are completely different from his/her parents', the unconscious and outdated IWMs will continue functioning (Bowlby, 1988/2005). Lastly to emphasize the importance of interactions between child and attachment figure and the formation of IWMs, Bowlby explained that, "because a child's self model is profoundly influenced by how his mother sees and treats him, whatever she fails to recognize in him he is likely to fail to recognize in himself" (1988/2005, p. 149). However, ending on a positive note, Bowlby (1988/2005) supported that although development declines with age, change is ever present through the human life cycle, therefore two diverging paths in life are always possible – one leading to decline and one to improvement.

1.2. Assessment of Attachment across the Lifespan

Evolution of attachment theory involved the development of attachment instruments in an effort to measure attachment and possibly contribute to the

expansion of already existing theories. The two most well-known and established instruments of attachment are the Strange Situation Procedure (Ainsworth et al., 1978) for infancy and the Adult Attachment Interview (George, Kaplan, & Main, 1985) for adulthood. Other measures are available for preschool and school age children. As the gamut of instruments is constantly expanding, this section should not be treated as a comprehensive review of this area, but rather a comparison of the various methodological approaches for assessing attachment.

1.2.1. Infancy – Strange Situation Procedure (SSP).

The SSP (Ainsworth et al., 1978) was developed to elicit attachment behavior in infants between the ages of 12 to 18 months by introducing mild stress, to allow researchers to observe and derive the attachment relationship between the child and primary caregivers. For infancy, the SSP is considered the gold standard (Crittenden, Claussen, & Kozlowska, 2007).

1.2.1.1. Procedure.

The SSP is administered in a laboratory setting, takes about 20 minutes and is comprised of eight episodes, with two separations and reunions with the attachment figures, always presented in a standard order beginning with the least stressful one (Ainsworth et al., 1978).

1.2.1.2. Coding and classification.

Coding is conducted by trained raters watching videotapes of the SSP and assigning scores with respect to interactive behaviors between the infant and caregiver along six dimensions: Proximity and Contact Seeking, Contact Maintaining, Resistance, Avoidance, Search and Distance Interaction (Ainsworth et al., 1978). Criteria are then used for assigning one of four attachment classifications (Ainsworth et al., 1978; Main & Solomon, 1990): Avoidant, Secure, Ambivalent/Resistant and Disorganized/Disoriented. Further, eight sub-classifications are suggested, however these are generally not used by most researchers, since the frequency within each sub-classification is usually low (Hesse, 2008; Solomon & George, 2008). Learning to use this coding system requires two weeks of training, currently available only once in 2015 in the United States with a high cost involved as well (Attachment Training, 2014b).

1.2.1.3. Interrater reliability.

Interjudge agreement for the SSP is consistently reported as high. During the development stages, Ainsworth and colleagues (1978) reported almost perfect agreement between judges with a correlation of .85, however they advise that training is necessary to achieve high reliability. Vaughn and Waters (1990) reported classification agreement of 86% and Van IJzendoorn and colleagues (1991) reported that agreement for main and subgroup classification ranged between 87% to 100%. The impressive number of 1,201 Strange Situation tapes were coded twice by three raters in a study conducted by the National Institute of Child Health and Human Development (NICHD) and yielded substantial agreement of 86%, with a kappa of .70 (Friedman & Boyle, 2008).

1.2.1.4. Test-retest reliability.

Assessment of continuity at two weeks conducted by Ainsworth indicated that overall stability of attachment classification was low with a concordance of 57%, most likely attributable to infant sensitization of the procedure. Waters (1978) administered the SSP within a six month interval and found an impressively high 96% agreement for classifications.

1.2.2. Preschool years.

The following section will review instruments available for children between the ages of one to six years of age. It may be useful to look at these measures because there are some issues of thinking about attachment that may be relevant and may help to inform the discussion about developing a valid instrument for middle childhood.

1.2.2.1. Attachment Q-Sort (AQS).

Concerned with the lack of attachment observation outside of a laboratory and beyond 18 months of age, Waters and Deane developed a new instrument, the AQS (1985). It is characterized as a coding system that is "more accessible and transportable" (O'Connor & Byrne, 2007, p. 188). The AQS is an instrument used to assess the secure-base behavior of children between the ages of one to five years at home or in a public place (Waters, 1987a) over a time period of two to six hours, ideally using multiple observers gathering information over multiple observation

sessions. More details of the development, coding process and psychometric properties will be provided in Chapter 3.

1.2.2.2. Sixth year reunion procedure.

In 1988, Main and Cassidy developed an attachment classification system for kindergarten aged children. This procedure involves a one hour separation from the parent followed by a reunion of three to five minutes. Based on careful analysis of this reunion, five main attachment classifications (Insecure-avoidant, Secure-confident, Insecure-ambivalent, Insecure-controlling and Insecure unclassified) and sub-classifications were assigned. The six year reunion procedure was developed using two samples of children assessed during infancy (SSP) and at six years of age. For the two studies satisfactory interjudge agreement was reported ranging between 77% to 83% for categories, with kappa ranging from .62 to .66. Overall agreement between infant and six year attachment classification was 84% ($\kappa = .76$) for Dismissing, Secure and Disorganized of mother, but much lower for father (61%, $\kappa = .28$). Similar findings concerning continuity for mother were reported by Wartner and colleagues (1994) using a sample of German six year olds.

There seem to be only a few studies using this instrument. This could be because of inherent limitations, for example, the brevity of the reunion and the time consuming nature of the coding system. Therefore, this instrument seems to be limited by multiple factors and perhaps a different instrument should be preferred or used in addition to this one.

1.2.2.3. Cassidy-Marvin system.

The Cassidy-Marvin system or Cassidy, Marvin and MacArthur Working Group 2.4 to 4.5 year olds (1987) is as a downward extension of the Main and Cassidy system for six year olds, developed to assess attachment in children between the ages of 2.5 to 4.5 years using a separation reunion procedure. Coding yields five main attachment classifications of Avoidant, Secure, Ambivalent, Controlling/Disorganized and Insecure/Other. Using this instrument requires training and reliability certification (Solomon & George, 2008). In a study conducted by Moss and colleagues (2006), agreement between two coders was substantial with 88% agreement and a kappa of .81 for overall attachment classification, with agreement ranging between 83% to 92% for each category of the four-way

classification. For the Secure and Avoidance scales, Slough and Greenberg (1990) reported correlation coefficients of .74 and .70.

Assessment of attachment category between 15 to 36 months of age indicated only modest stability (NICHD Early Child Care Research Network, 2001). Concerning association with other measures, Bretherton and colleagues (1990) found that concordance between the Attachment Story Completion Task (ASCT) and the Cassidy-Marvin system yielded a significant relation for Secure versus Insecure attachment classifications and story security scores, however this was not observed for Insecure categories. Slough and Greenberg (1990) in assessing the relationship between the SAT and short separation reunion responses found strongest association with the Avoidance scale, but only weak agreement was observed for scores on the attachment scale. However, long term separation reunion responses showed very poor association with SAT dimensions. Recently, Crittenden, Claussen and Kozlowska (2007) used a sample of 51 children between the ages of 2.5 and four to compare the attachment classifications derived using the Cassidy-Marvin system and the Preschool Assessment of Attachment (Crittenden, 1992a) and found a very weak association between the two measures. Overall the findings concerning this instrument are rather mixed.

1.2.2.4. Preschool Assessment of Attachment (PAA).

The PAA (Crittenden, 1992a) is based on the Dynamic Maturational Model (this model is explained in Chapter 2) of attachment and was developed for children between the ages of two and five. It is administered using a modified version of Strange Situation but applies a different coding system, yielding six attachment classifications: Defended, Secure, Coercive, Defended Coercive, Anxious Depressed and Insecure/Other. Using this instrument requires attending a two week training and subsequent assessment of reliability (Family Relations Institute, 2014). As mentioned previously, concordance between the PAA and the Cassidy-Marvin system yielded weak concordance, with only 37% agreement (Crittenden et al., 2007). In a more recent study, agreement was somewhat higher between the two systems, but still low at 50% (Spieker & McKinsey Crittenden, 2010). However, it is interesting to note that both systems only reported moderate interjude agreement of kappa = .45 for the PAA and kappa = .50 for the Cassidy-Marvin system, although following the traditional classification system, SSP assessed at 15 months yielded a substantial

kappa of .70. This is a rather perplexing finding that could indicate that neither the PAA nor the Cassidy-Marvin system is reliable. The fact that both systems are based on a modified version of the SSP, where the stranger episode is eliminated and the second separation is extended from three to five minutes could pose an additional problem regarding the reliability of the two instruments.

Overall it seems that measures of attachment in the preschool years are somewhat problematic and this supports the view that assessment in this age group should be undertaken with caution (Slough & Greenberg, 1990).

1.2.3. Adolescence.

Adolescence is characterized as a period of major transitions that also encompasses changes in attachment. By this age, a "single overarching attachment organization has developed" (Allen, 2008, p. 419). Changes concerning attachment occur on multiple levels during this transitional developmental stage. These changes include: (a) cognitive and emotional development of the adolescent extend the ability for reflection and modification of state of mind with respect to attachment; (b) the relationships with attachment figures can be characterized as a negotiation rather than a coordination observed in earlier years, where he/she is increasingly exploring away from the parents with an effort toward autonomy; and (c) peer relationships are acquiring increased importance that gradually develops into attachment relationships.

The Attachment Interview for Childhood and Adolescence (AICA) was developed by Ammaniti and colleagues (1990) as a downward extension of the AAI. It was used to assess the state of mind regarding attachment for children during late middle childhood to early adolescence. It was administered to the same sample at 10 and 14 years of age. The modifications involved simplifying the wording of questions to make it applicable to this age group and removing questions relevant to being a parent. Similarly some changes were also made to the coding system to adjust it to this age group. Concordance between raters for four-way attachment classifications was 82% ($\kappa = .64$). The researchers found that the distribution of attachment categories did not differ from that of older adolescents and adults. Also, they found that stability for the four year interval was 71% with a significant kappa of .48. Stability was highest for the Dismissing and then for the Secure category, but lower for the Preoccupied and least stable for the Unresolved category. However, it is difficult to make any definitive conclusions about the Preoccupied and Unresolved

category as there were very few participants in these two categories (Ammaniti, Van IJzendoorn, Speranza, & Tambelli, 2000).

Longitudinal studies assessing the continuity of attachment classification in late adolescence and early adulthood have also been conducted. Hamilton (2000) assessed the association between SSP classifications and the AAI classification of 17 year olds and found that the Secure versus Insecure split exhibited stability of 77%, whereas for three-way categorization stability was 63%. Assessment of negative life events and attachment continuity indicated a significant association, particularly for Insecure classifications. A 20 year longitudinal study conducted by Waters, Merrick, Treboux, Crowell, and Albersheim (2000) found 72% stability of three-way classification for the subset of young adults that did not experience any stressful life events and 78% for the Secure versus Insecure split. However, for 36% of the overall sample their classification changed between infancy and early adulthood. In a study with a sample of 101 adolescents at moderate risk conducted by Allen and colleagues (2004), substantial stability for security between assessment at 16 and 18 years of age was found. However, looking at individual differences they reported that overpersonalized relationship with the mother, depressive symptoms and family poverty predicted lower levels of security observed between the two intervals.

Conversely, using a low risk sample, this continuity was not observed by Lewis, Feiring, and Rosethal (2000) or Becker-Stoll and Fremmer-Bombik (as cited in Weinfield, Whaley, & Egeland, 2004). Weinfield, Sroufe, and Byron (2000) found absence of continuity between infant attachment and attachment in late adolescence for a high risk sample. Interestingly, during infancy the predominant attachment classification was Secure and during late adolescence was Dismissing, with the exact same percentage observed in both age groups (59.6%). They found that continuity and discontinuity was related to negative life events of child maltreatment, depressed mothers, and family functioning. In one of the few longitudinal studies assessing continuity of four-way attachment classification in a high risk sample of late teens, it was reported that Secure attachment in infancy did not show significant continuity in late adolescence, with a large number shifting from Secure to Dismissing attachment. Also, Disorganized infants were significantly more likely to be Insecure and Unresolved in late adolescence (Weinfield et al., 2004).

1.2.3.1. Discussion.

Although the AAI and AICA have shown promising results for assessing state of mind regarding attachment in adolescence, with individuals in this age group being able to meet the demands of an interview based instrument, there seems to be a mixed picture concerning continuity and discontinuity for this age group. As evidenced in moderate to high risk samples this seems to be explained by stressors and negative life events (Weinfield, Sroufe, & Byron, 2000; Weinfield et al., 2004). However, further research is required and perhaps further development of interview based instruments that are specifically aimed at assessing attachment for this age group, rather than downward modifications of an instrument and coding system intended for the cognitive and emotional maturity of adulthood. For example, Ammaniti and colleagues (2000) stipulate that this age group tends to have difficulty in separating current and past experiences. Therefore using the existing criteria for rating coherence, adolescents would be regarded as incoherent, although this is not necessarily the case. Also the tendency of adolescents to focus on activities and how they react to parents when describing their relationship rather than focusing on "mental interchange" is also a characteristic of the developmental stage. However, in adulthood this would be indicative of Dismissing attachment.

1.2.4. Adulthood – Adult Attachment Interview (AAI).

George, Kaplan and Main (1996) took attachment measures to the representation level by developing the AAI, a semistructured interview developed to assess an adult's "current state of mind" regarding attachment (p. 4). Development of this interview was considered an important departure from objective observations of children's behavior to assessing the current mental representation of childhood memories in adults from the biographical information collected during the interview (Van IJzendoorn, 1995).

1.2.4.1. Procedure.

The AAI is made up of 20 questions (followed by specific probes) designed to "surprise the unconscious" in reference to attachment and takes about one hour to complete (George et al., 1985, p. 6). Interviewees are asked to provide five adjectives describing their relationship with each parent during childhood, followed by specific examples to support each adjective. Then he/she is also asked questions about being

upset, physical injury, illness, separations, rejection, threatened by parents, how their childhood experiences affected their adult personality and about significant losses.

1.2.4.2. Coding and classification.

Coding of the AAI is completed exclusively using a detailed verbatim transcription of the interview and nonverbal behavior is not taken into consideration (George, Kaplan, & Main, 1996). Analysis is completed in three phases: the first two require the coder to use nine point scales to rate probable childhood experience for each parent and the current state of mind of the interviewee concerning these experiences. Among the current state of mind scales, one of the most informative for the next phase is coherence of transcript based on Grice's (1975) maxims of rational discourse – quality, quantity, relation and manner. During the third phase, one of five possible attachment classifications is assigned to reflect the individual's current state of mind regarding attachment. The five possible categorizations are Secure-autonomous (F), Dismissing (D), Preoccupied (E), Unresolved-disorganized (U) and Cannot Classify (CC). The last two categories are always assigned a secondary "best fitting 'organized' classification" (George et al., 1996, p. 8). The first four attachment classifications correspond to those of the SSP of Secure, Avoidant, Ambivalent/Resistant and Disorganized, respectively (Ainsworth et al., 1978; George et al., 1996).

1.2.4.3. Stability and interrater agreement.

Studies examining test-retest reliability of the AAI using different interviewers across time intervals have reported the following: the first study with a sample of 83 participants reported a substantial kappa of .63 with 78% stability, for a two month interval for the three main attachment classifications, although the Unresolved classification was less stable (Bakermans-Kranenburg & Van IJzendoorn, 1993); the second study using a sample of 59 college students in Israel reported 90% agreement between test-retest classifications, for a three month interval, with a high kappa of .79, and an average agreement of 95% among raters (Sagi et al., 1994). Also, interjudge reliability of 80% was reported across 18 studies (Van IJzendoorn & Bakermans-Kranenburg, 1997). Benoit and Parker (1994) assessed stability for both three- and four-way classification with a sample of 96 mothers with a 12 month interval; stability was 90% and 77%, respectively. Also,

test-retest reliability was assessed for three-way classification at a longer interval of 18 months indicating stability of 86% (Crowell et al., 1996).

1.2.4.4. Discriminant validity.

A review of studies assessing the discriminant validity of the AAI found that security of attachment in adults was not related to IQ in five out of six studies (Van IJzendoorn, 1995). Moreover, research has found that attachment classification is not associated with short or long term non-attachment related memory and interviewer effects (Bakermans-Kranenburg & Van IJzendoorn, 1993; Sagi et al., 1994).

1.2.4.5. Predictive validity.

The development of the AAI was an important turning point in attachment research, in conjunction with the findings reported by Main and colleagues (1985) that parental attachment classification was related to attachment classification of the child assessed during infancy. Since then, the AAI has been used extensively in research in both clinical and developmental studies (Hesse, 2008).

AAI classification of the mother yielded a strong, significant correlation (r = .62, p<.001) with the SSP Secure attachment of the child during infancy, although the association for father was not as strong (r = .37, p < .05) (Main, Kaplan, & Cassidy, 1985). Assessment of predictive validity using a sample of 96 mother-infants dyads, reported that AAI category during pregnancy predicted the SSP classification of the infant at 11 months, with a concordance of 81% for three-way categorization and 68% for four-way categorization (Benoit & Parker, 1994).

Contrary to these findings, Van IJzendoorn and colleagues (1991) assessed concordance between parent and child attachment among a sample of Dutch families and surprisingly found that agreement between three-way classification for mother-infant and father-infant dyads were not significant, while similar findings were reported for two-way classification of Secure versus Insecure for father. The only significant relation was for two-way classification between mother and child.

However, an overall meta-analysis conducted by Van IJzendoorn (1995) offered support for this association, reporting that across 18 studies there was a large effect size of 1.06, in the expected direction for two-way attachment classification between parent to infant dyads. For the fourteen studies that permitted cross tabulation of AAI and SSP classifications, agreement was 75% for Secure versus Insecure categorization, and 70% for three-way categories. These findings were still

observed in five studies where the AAI was administered before the child was born, yielding an agreement of 69% (Van IJzendoorn, 1995).

1.2.4.6. Discussion.

Although findings show that the AAI is undoubtedly a valid and reliable instrument, a serious impediment to its more widespread use is the training involved in using this instrument. Learning to use the AAI involves attending a two week training institute held only few times per year in various locations around the world (Attachment Training, 2014a). Once training is completed, an individual must also pass a reliability assessment to receive certification and this involves coding three sets of 10 interviews over an 18 month period. Overall, the cost of the training is high and could be prohibitive for many.

Further, using the AAI poses an additional challenge. It takes about an hour or longer to administer, several hours to transcribe and the coding system has been characterized as complex (Bakermans-Kranenburg & Van IJzendoorn, 1993). Therefore, the AAI cannot be characterized as a cost and time effective instrument, particularly for studies using large sample sizes (de Haas, Bakermans-Kranenburg, & Van IJzendoorn, 1994). Overall, it is instead characterized as "a laborious instrument; administering, transcribing, and coding an interview requires training and an impressive amount of time" (Van IJzendoorn & Bakermans-Kranenburg, 1997, p. 148). However, at the moment, a satisfactory alternative is not available and researchers continue to rely on the labor intensive AAI (Van IJzendoorn & Bakermans-Kranenburg, 1997).

An alternative to the coding system of the AAI using Q-technique and called the Attachment Interview Q-sort was developed by Kobak (1993). Although the author tried several times, it was not possible to obtain this coding manual, therefore specific details about the process were not available to review.

1.3. Assessment of Attachment in Early and Middle Childhood

Despite the abundance of research in infancy and adulthood, middle childhood continues to be the least studied period of the life cycle (Dwyer, 2005; Kerns, Schlegelmilch, Morgan, & Abraham, 2005), and therefore developing instruments for this age group seems warranted.

According to Ainsworth (1990) it is a fallacy "to think of attachment entirely in behavioral terms at any stage of development" (p. 469). Cognitive and affective processes are intertwined throughout the life span when considering attachment. With infants, one must rely on behavioral manifestations because language has not yet developed. However, although language development in older ages provides additional sources of information to assess attachment, it would be incorrect to assume that this information guarantees "more dependable clues than behavior" because with age comes control over verbal and non-verbal behavior and is compounded by the development of defensive mechanisms (Ainsworth, 1990, p. 469). Even though the separation episodes of the SSP introduced adequate stress for an infant to provide an opportunity to assess attachment, Ainsworth (1990) cautioned that using a similar approach in later years seemed inappropriate because with age children become accustomed to prolonged separations, strangers and unfamiliar settings, therefore this approach would no longer induce the stress needed to activate the attachment system and allow assessment to take place.

According to Moss and colleagues (2006), by middle childhood, children are able to serve as informants concerning the quality of their attachment relationship with their primary caregivers through the use of representational instruments. In an effort to fill the gap between the infancy (SSP) and adulthood (AAI), Target and colleagues (2003) drew features and information from both of the previously mentioned instruments, and engaged in extensive pilot studies to create a measure developmentally sensitive to school-age children, named the Child Attachment Interview (CAI).

1.3.1. Interview Measures.

1.3.1.1. Child Attachment Interview (CAI).

The CAI (Shmueli-Goetz, Target, Fonagy, & Datta, 2008; Target, Fonagy, & Shmueli-Goetz, 2003; Target, Fonagy, Shmueli-Goetz, Datta, & Schneider, 2005) is a narrative interview based approach to assessment of attachment. It took an integrative approach, by adapting features of the SSP and AAI and taking the middle ground between the various indirect representational approaches.

The CAI is comprised of 19 questions used to assess quality of attachment to primary caregivers in middle childhood. Initially it was developed for children between the ages of eight to 13, but recently its use has been expanded to include

adolescents (Fearon, Shmueli-Goetz, Viding, Fonagy, & Plomin, 2013; Scott, Briskman, Woolgar, Humayun, & O'Connor, 2011).

Possible doubts that school age children can meet the demands of the CAI were allayed by Harter (2012) who stipulated that during this stage of development, children can provide a narrative describing themselves that has attributes of coherence and continuity. In addition, children have developed the ability to integrate both positive and negative attributes in mental representations of the self which they are able to communicate to another person. They are also able to articulate their emotions and understand another person's perspective.

1.3.1.1.1. Procedure.

The CAI takes about 30 minutes to administer and is comprised of questions intended to activate the attachment system of the child being interviewed, thereby eliciting the current quality of their attachment to their primary caregivers. Activation of the attachment system is achieved by asking questions relating to difficult situations where the child would seek their attachment figure, these include emotional distress, illness, injury, loss through death, and separation.

The CAI was developed as an interview protocol modeled after the AAI and it was similar to the latter in trying to "activate the attachment system so as to elicit attachment related information" (Target et al., 2003, p. 174). However it differed in two important ways: first, the interview was flexible so as assist children with the somewhat demanding task required of them, and second, guided by theory on the cognitive development of children, the focus was on current rather than past events and relationships with caregivers. Piloting of the CAI indicated that children were able to understand and respond in a coherent manner to the questions asked concerning attachment with their primary caregivers (Target et al., 2003).

1.3.1.1.2. Coding and classification system.

Interviews are videotaped and then transcribed for subsequent coding. The CAI coding and classification system was modeled after the AAI and SSP, yielding four possible attachment classification and ratings on scales corresponding to dimensions related to Secure and Insecure attachment (Shmueli-Goetz, Target, Datta, & Fonagy, 2004). Although many elements are drawn from the AAI, the instrument overall was adapted to meet the developmental aptitude of children. Elements from the SSP coding system were used to inform analysis of nonverbal behavior.

Specifically, the CAI consists of the following eight scales: (a) Emotional Openness, (b) Balance of Positive and Negative References to Attachment Figures, (c) Use of Examples, (d) Preoccupied Anger, (e) Idealization of Attachment Figures, (f) Dismissal of Attachment, (g) Resolution of Conflicts, and (h) Overall Coherence. After coders rate the interview on these scales, attachment classification is arrived at by using an algorithm provided in the manual for categorization (Shmueli-Goetz et al., 2004).

1.3.1.1.3. Studies using CAI.

Studies using the CAI are increasingly growing in recent years (e.g., Borelli et al., 2010; Scott et al., 2011; White et al., 2012; Zachrisson, Roysamb, Oppendal, & Hauser, 2011) contributing to expansion of the evidence base and further validation of this instrument. The CAI had demonstrated psychometric properties that characterize it as both a reliable and valid instrument (Shmueli-Goetz et al., 2008), however as with most instruments for this age group further validation is necessary (Kerns, 2008; Shmueli-Goetz et al., 2008).

1.3.1.1.4. Interrater reliability.

Assessment of interrater reliability by Target, Fonagy and Shmueli-Goetz (2003) ranged between moderate to substantial for both four- and three-way classification of mother and father. Humfress and colleagues (2002) reported interrater reliability between two coders as substantial, evidenced by a kappa of .74 for the four-way classification for both mother and father. Intraclass correlation coefficients were acceptable for the following four scales: (a) Coherence, (b) Dismissing Avoidance, (c) Emotional Openness, and (d) Resolution of Conflict (ranging between r = .67 to .78). However, the rest of the four scales yielded lower r values ranging between .31 to .64 (Humfress, O'Conner, Slaughter, Target, & Fonagy, 2002).

Borelli and colleagues (2010) used the CAI to examine the relation between attachment and emotion in children between the ages of eight and 12, reported almost perfect interrater reliability between two coders with a kappa of .86 for four-way classifications and .83 for three-way classifications. In addition, an interclass correlation coefficient of .97 for the Coherence scale was reported. A study using the CAI to assess attachment in adolescents indicated substantial agreement between two coders. The four-way classification yielded a kappa of .78 and the two-way classification a kappa of .79 (Scott et al., 2011).

Validity of the CAI was assessed using both a clinical and normative samples of sufficient size and both expert and naïve raters took part in these studies (Shmueli-Goetz et al., 2008). Subsequently to receiving training for coding the CAI, interrater reliability was assessed yielding the following results: between three expert raters, a median Interclass Correlation Coefficient (ICC) of .88 for all scales (low ICC was only observed for the Idealization of Father scale explained by the fact that such information was generally limited in the interviews); between two raters with limited knowledge in attachment and no involvement in the development of the CAI, a median Pearson correlation (*r*) of .87 on all scales (without low ICC on any scales); and between pair of naïve raters with no knowledge on attachment and involvement with the CAI, a median *r* of .81 (low ICCs were only observed for the Involved Anger and Idealization of Father scales).

1.3.1.1.5. Internal consistency.

Internal consistency for the scales for the normal sample, as indicated by Cronbach's alpha was high for all scales (α ranged between .82 to .87) except for the scales corresponding to "Active Conflict" (i.e., Involving Anger and Conflict Resolution) in which case α = .32. However, the latter result was not considered a point of concern because Involved Anger was infrequently observed and only towards one parent. Similarly the clinical sample yielded high internal consistency for all scales (α ranged between .83 and .86) except for the Active Conflict scales, where α = .49 (Shmueli-Goetz et al., 2008).

1.3.1.1.6. Test-retest reliability.

Test-retest reliability was assessed at both a three and 12 month interval. For the normal sample, the median Pearson moment correlation was high (.69) for the scales and classifications after three months. For the mother and father four-way classifications, agreement was substantial, evidenced by a kappa of .71 and .62, respectively. However, after 12 months, reliability was somewhat lower for both scales and classifications, evidenced by a median correlation coefficient of .54 for scales and kappa for four-way classification of mother and father of .64 and .53, respectively (Shmueli-Goetz et al., 2008).

1.3.1.1.7. Discriminant validity.

Discriminant validity of the instrument was assessed by examining the association between Secure and Insecure attachment classification and age, gender, socioeconomic status (SES), ethnicity and one or two parent households. For the

normal sample, none of the variables indicated a statistically significant association with attachment classification. Furthermore, the association between Secure and Insecure attachment with IQ and expressive language did not reach statistical significance for the normal or the clinical sample. These results are suggestive of discriminant validity. In addition, criterion validity was supported by the higher proportion of Insecure to Secure attachment in the clinical group (Shmueli-Goetz et al., 2008).

1.3.1.1.8. Concurrent and predictive validity.

Concurrent validity as assessed by examining the relation between the CAI and the SAT (Shmueli-Goetz et al., 2008) showed reasonable concordance for three-way classification ($\kappa = .36$, $p < .05$), indicating that perhaps the two instruments are tapping different aspects of the attachment construct. Maternal AAI yielded a significant, although weak association with the CAI offering some support for predictive validity of the CAI (Shmueli-Goetz et al., 2008).

1.3.1.1.9. Discussion.

In the first published paper on the CAI, Target and colleagues (2003) explained that integrating non-verbal behavior into measures assessing attachment in middle childhood could provide "a very useful source of information in identifying distinct attachment patterns" (p. 172) and would provide a means for simultaneously assessing attachment at the behavioral and representational level. The CAI was developed with this in mind and the extensive administration of the interview to both a normal and clinical sample, indicated that the way this instrument was designed, it successfully elicited both verbal and nonverbal responses from the child, when responding to attachment related questions concerning the primary caregivers. However, the behavioral analysis of the CAI is actually quite basic, a limitation acknowledged by its developers (Target et al., 2003).

Specifically, the actual behavioral analysis of the CAI, simply involves the coder noting the following on their rating sheet, while watching the interview: (a) marked changes in behavior, (b) marked anxiety, (c) eye contact with the interviewer, (d) tone of voice, and (e) contradiction between behavior and interview content. However, analysis does not actually proceed beyond this point. The scales ratings assigned to each child and subsequently used to assign attachment classification only informally take this information into account. In fact, the instructions for the Emotional Openness scale emphasize not to score this scale based

on behavioral expression, but rather on descriptions of feelings provided by the child (Shmueli-Goetz et al., 2004). The only time this information is formally considered is if it is indicative of Disorganized attachment, where the coder may observe a contradiction between non-verbal and verbal behavior (Shmueli-Goetz et al., 2004). Therefore, this is a limitation that should be addressed by future instruments.

A further limitation of the CAI is that it requires extensive four day training and subsequent reliability certification involving coding 30 cases in order to use the instrument for research and clinical purpose. Moreover, trainings are offered a few times per year, mostly in the United Kingdom.

In summary, although the CAI is a relatively new instrument, it has overall shown promising psychometric properties. As Scott and colleagues explain (2011), studies are increasingly offering support for the use of interview measures such as the CAI to assess mental representations, however application of the CAI remains a challenge due to the time involved to use this instrument and the necessary training. Therefore addressing the limitations of the CAI and further studies to assess its reliability and validity may help fill the gap of an adequate instrument for assessing attachment in middle childhood.

1.3.1.2. Friend and Family Interview (FFI).

The FFI is a semi-structured interview developed by Howard and Miriam Steele (2005) to assess mental representation of attachment for children between the ages of nine to 16 years (Kriss, Steele, & Steele, 2012). Construction of this instrument was informed by the AAI with a particular focus on coherence and is based on the premise that children in this age group are able to respond to direct questions. Similarly to the CAI, Steele and Steele (2005) found that 11 year old children can discuss their attachment relationships with an interviewer in a "thoughtful, reflective, and credibly insightful way" (p. 153). It is an effort to assess coherency by systematically eliciting information about a child's perception of frequently conflicting emotions regarding his/her closest relationships with both family and other important figures, because during this age children hold close ties to the families, but also forge close relationships outside of the family, with friends and teachers.

1.3.1.2.1. Procedure.

During the FFI, the child is asked to provide information about the positive and negative aspects of the self and of relationships with their friends, teachers, siblings and parents, with prompts introduced to encourage the child to describe disagreements and resolutions and provide relevant supporting examples (Steele & Steele, 2005). For each relationship, the child is also asked of his/her opinion concerning what each individual (i.e., mom, dad, brother, etc.) thinks about him/her. The interviewer then asks about separation from caregivers, about the perception of the relationship between the caregivers and about arguments between them (Kriss et al., 2012; Steele & Steele, 2010).

1.3.1.2.2. Coding.

The FFI coding system provides scale scores across eight domains with several subcategories. These include coherence, reflective functioning, secure base availability, self-esteem, peer relations, sibling relations, anxieties and differentiation of parental representation scored on a four-point Likert scale based on the entire interview. When videotaped interviews are available non-verbal behavior is also scored. In addition, to assigning scores for the various scales on narrative content, the coder also assigns an overall attachment classification of Secure, Dismissing, Preoccupied, or Disorganized to each child based on particular features and scale scores relevant to each category (Steele, Steele, & Kriss, 2009). Coding is carried out using recordings that are subsequently transcribed.

1.3.1.2.3. Interrater reliability.

Information about observer agreement was only mentioned in a recent study conducted by Escobar and colleagues (2013), centering on attachment of adopted teenagers and their primary caregivers in Chile. Assessment of agreement between the two coders yielded a kappa of .94 for four-way attachment classification. Although this is indicative of almost perfect agreement, this finding must be interpreted with caution since concordance was assessed using only six interviews.

1.3.1.2.4. Internal consistency.

An interesting study conducted by Stievenart and colleagues (2012) had the purpose of validating measurement of coherence by the FFI focusing on four related items (i.e., quality, quantity, relation, and manner). Findings reported that coherence assessment is valid across both samples of Belgian and Romanian adolescents, with the exception of one item (i.e., relation which refers to the relevance of examples)

which varied between the samples from the two countries. In addition, these four items displayed high internal consistency for both countries, as indicated by an alpha coefficient of .83.

1.3.1.2.5. Associations with other attachment instruments.

A comparison of attachment as assessed during infancy using the SSP for both mother and father in a longitudinal study conducted by Steele and Steele (2005) using a sample of 55 children found that security to mothers assessed in infancy did not show a significant relation to indices of coherence, overall coherence, or secure base availability of either parent assessed using the FFI at 11 years of age. However, security to father did yield significant positive correlations only for sons with all indices of coherence, overall coherence, and secure base availability of the mother only.

1.3.1.2.6. Construct validity.

In the same study mentioned previously by Steele and Steele (2005), the researchers compared AAIs assessing parental attachment conducted prior to birth of the child and FFIs conducted at 11 years of age assessing child attachment. The findings showed that maternal AAIs indicated a significant positive correlation for overall coherence and secure base availability of the mother for both combined sample of daughters and sons, but not for each separately, however paternal AAIs indicated the same relationship only for sons.

1.3.1.2.7. Discussion.

Although the studies using the FFI are quite limited, it has shown some evidence suggestive of reliability and validity, however further studies are needed in order to properly assess the psychometric properties of this relatively new attachment measure. It is interesting that among the few studies available, one was conducted using a sample from Chile and the other using samples from Belgium and Romania. These studies make an important contribution toward assessing validity of the FFI, cross culturally, which seems to be broadly lacking for other attachment measures.

A further limitation of the FFI is that it measures several constructs and not only attachment. A potential limitation observed in the coding manual is that although non-verbal behavior is coded it does not seem to be considered by the coder when the overall attachment classification is assigned to the child. It seems that including this would actually be quite informative, as explained by the developers of the CAI mentioned previously.

1.3.2. Family drawings.

Some researchers included family drawings as an additional measure of attachment in their studies. This method of assessment draws information from the child's unconscious perception regarding attachment to primary caregivers (Kerns et al., 2005). This measure was first utilized by Main, Kaplan, and Cassidy (1985) with six year old children and as mentioned in a review by Solomon and George (2008) and a study conducted by Fury, Carlson, and Stroufe (1997), an initial coding system was developed by Kaplan and Main in 1986. Fury and colleagues (1997) using a sample of children from eight to nine years of age, found that attachment classifications derived from family drawings were related to SSP classifications from infancy. Using family drawings provided some evidence of discriminant validity by showing that attachment was independent of intelligence. Although this instrument offers an interesting and innovative approach to assessing attachment, further studies assessing its psychometric properties are needed, inclusive of a sample of older children as it is questionable that this instrument may be applicable to children in later middle childhood. Perhaps more mature children may not be willing to participate in such an activity.

1.3.3. Narrative approach.

According to Bettmann and Lundahl (2007) narrative measures "provide researchers and clinicians with insight into the internal worlds of young children, offering windows into a difficult-to-assess population" (p. 455). As the authors explain, children between the ages of three and 10 are insufficiently assessed by the SSP and not advanced enough to meet the needs of an interview based measure of attachment. Therefore, they support the assessment of children's mental schemas through narrative instruments.

Further, it is supported that the narrative approaches combined with doll play allow researchers to elicit both verbal and non-verbal behavior during assessment of attachment without direct questioning about relationships with parents, thereby reducing any stress and anxiety in the child. Furthermore, assessment through play allows for information to be elicited concerning the emotions, thoughts and memories of a child that may not be available or remembered verbally (Hodges, Steele, Hillman, Henderson, & Kaniuk, 2005). Various narrative approaches will be described below, with reference to their trajectory where relevant.

1.3.3.1. Separation Anxiety Test (SAT).

The SAT was adapted for use with children between the ages of four to seven years from the original measure developed by Hansburg (1972) for adolescents. It is a semi-projective task used to assess children's internal schemas of attachment relationships.

1.3.3.1.1. Procedure.

The SAT is comprised of six pictures depicting "mild" to "strong" separations between the child and parent, chosen specifically with focus on the situation and with minimal attention on emotions as depicted by facial expressions, allowing for emotions to "remain ambiguous" (Klagsburn & Bowlby, 1976, p. 309). The mild separations include images of first day at school, when the mother is about to leave; or at the park with parents and the child is told to play on his/her own. Stronger separations include images of the parents going out for the evening and leaving the child at home; or separation with parents as they are going away for the weekend and the child is staying with aunt and uncle. Also, there are two sets of pictures for each gender. Following the protocol, the interviewer begins by offering a brief description of the picture and then the child is asked a series of fixed questions designed to elicit a narrative pertaining to attachment. These questions ask about the feelings of the child in the picture, the reason for these feelings and how he/she will respond. If the child has difficulty responding, the interviewer has a list of possible responses to read aloud (Klagsburn & Bowlby, 1976).

An adaptation of the SAT was created by Slough and Greenberg (1990) mostly to address discrepancies between the girl and boy picture sets. Two further adaptations were made by Wright, Binney, and Smith (1995) and Aviezer, Sagi, Resnick, and Gini (2002) to make the SAT applicable to children between the ages of eight to 12 years old. The former modified the pictures used for 5 year old children (Slough & Greenberg, 1990) to make them applicable to older children and the latter adapted pictures from the set used for adolescents (Hansburg, 1972).

1.3.3.1.2. Coding.

The original study by Klagsburn and Bowlby (1976) describing the SAT, utilized a coding system consisting of 14 categories that were subsequently combined into eight indices, these indices assessed attachment responses, self-reliance, hostility, anxiety, avoidance, and withdrawal. The SAT was administered and coded using a sample of 61 children between the ages of 4.5 to 5.5 years, for which the

eight indices mentioned previously were used to assign an overall test score. The finding of this study indicated that the overall score showed a significant correlation with the ratings given by teachers. Subsequent studies (e.g., Main et al., 1985; Slough & Greenberg, 1990; Wright, Binney, & Smith, 1995) have used varying picture sets, systems of coding and different criteria for characterizing pictures as indicative of mild or strong separations from the parents.

1.3.3.1.3. Interrater reliability.

As application of coding system varies between studies, similarly the results of interrater reliability tend to vary and should be interpreted with caution as they may not actually be comparable. In studies using three continuous scales, Clarke and associates (2002) reported agreement between 81% to 87%, while Wright and colleagues (1995) reported agreement ranging between kappa of .58 to .85. Grossman and colleagues (2002), rated overall security on a seven point scale and reported a kappa of .88. Shouldice and Stevenson-Hinde (1992) reported agreement ranging between 84 to 100% for all SAT scales. On the other hand, Slough and Greenberg (1990), reported lower agreement for the emotional openness scale, without reporting for the scales of attachment, self-reliance and avoidance. Clark and Symons (2009) using the adaptation by Slough and Greenberg (1990) and relevant coding system, reported agreement ranging from .91 to .94 for scales, with a kappa of .83 for subcategories. Using nine point scales, Easterbrooks and Abeles (2000), reported kappa for emotional security and coping solutions of .90, and for attachment classifications .92; Aviezer, Sagi, Resnick, and Gini (2002) reported intraclass correlation coefficients ranging between .80 to .89. For agreement using four-way attachment classifications, McCarthy (1998) reported 68% agreement and for agreement with three-way classifications, kappa was .67 (Shmueli-Goetz et al., 2008).

1.3.3.1.4. Test-retest reliability.

Data concerning test-retest reliability of the SAT is quite limited. The only study found was that by Wright, Binney, and Smith (1995) assessing short term stability with a four week interval. The relation did not show statistical significance. This study also seems to be the only one that assessed internal consistency of scales with the authors reported it was acceptable for only two scales.

1.3.3.1.5. Associations with other attachment instruments.

Assessment of the relation between the SSP and SAT found that Secure attachment between mother and infant, but not between father and infant, displayed a positive and significant correlation with the SAT dimension of emotional openness (Main et al., 1985) and attachment classification in infancy for both mother and father was predictive of security on the SAT, meaning that six year olds that were Secure during infancy responded in an emotionally open and competent manner to pictures of separation (Grossman et al., 2002). Aviezer and colleagues (2002) surprisingly found that infant attachment classifications on the SAT were negatively and marginally significant to early adolescent SAT scores, indicating that Secure attachment in infancy predicted Insecurity in adolescence. As explained previously, concordance between three-way attachment classifications of the CAI and SAT showed a reasonable and significant relation with a kappa of .36.

1.3.3.1.6. Discriminant validity.

Concerning discriminant validity of the SAT, Aviezer and colleagues (2002) found that SAT scores were not related to overall IQ or verbal intelligence among preadolescents. Similarly, McCarthy (1998) found that verbal intelligence did not yield a significant association with SAT scores. However, studies with children five to six years of age and eight years of age found that verbal IQ and attachment status as assessed by the SAT were related (Easterbrooks & Abeles, 2000; Verschueren & Marcoen, 1999)

1.3.3.1.7. Discussion.

Overall the findings for the SAT have been quite mixed and the overall picture somewhat perplexing, as there are multiple adaptations and coding systems for this instrument making adequate comparison challenging. According to Kerns and Seibert (in press) the SAT versions for children in early middle childhood are more promising for assessing attachment, than are subsequent adaptations developed for later middle childhood, recommending that researchers eschew using the latter and should rather prefer choosing among other available instruments. However, it is difficult to agree with this differentiation, but rather to urge for the development of a standardized instrument and coding process for each age group that will be applied across multiple studies with large sample sizes enabling adequate reliability and validity assessment of this instrument.

1.3.3.2. Family photos.

Main and colleagues (1985) describe the use of family photos as a representational approach with elements of a separation reunion procedure, where the separation was already present due to circumstances and the presentation of the photograph to the child was considered the "reunion" with the parent, allowing one to observe the response of the child. In a study by Main and colleagues (1985) with six year olds, a family photo taken before any measures were administered was shown to children during the course of the laboratory session and responses were videotaped. Coding on nonverbal behavior was completed by two raters, instructed to rank security, without any specific scales provided and asked to provide a description of the behavior that guided their decision. Interrater reliability between the two coders was satisfactory with a correlation of .63. The association between Secure attachment with mother at 12 months (using the SSP) was strong and significant, however this same association was not observed for the father (assessed with SSP at 18 months; Main et al., 1985).

1.3.3.3. Doll play, story stem procedures, and the MCAST.

Among the earliest publications about the development of instruments using doll play and story stems completions to tap mental representations of attachment in children was that of Jude Cassidy in 1988. Cassidy developed and validated this instrument using a sample of fifty two, six year old children. The instrument comprised of six stories designed to take three minutes each to complete. Coding using verbatim transcripts involved rating each story along a five point scale of security. Each story was also assigned an attachment classification of Secure/confident, Avoidant or Hostile/negative. Reliability among coders was 92% for agreement within one point on the scale and a reported correlation of .63. Children in this study were also observed during separation reunion procedures (Main & Cassidy, 1988) and the association between the two measures was significant, with a correlation coefficient of .46 (Cassidy, 1988).

Subsequently, Bretherton, Ridgeway, and Cassidy (1990) used a doll play procedure to develop the Attachment Story Completion Task (ASCT) to assess the internal working models of attachment in three year old children. This involved presenting five story stems to children using dolls and props to represent the mother, father, an older child, a young child, and the grandmother (for two stories only). The

themes of the stories focus on situations related to attachment to bring forth children's internal representations. The coding process involved analysis of both content and structures of the narrative leading to the development of criteria for Security and Insecurity (Bretherton, Ridgeway, & Cassidy, 1990). A sample of three year old children administered the story stems were also observed with their mothers in a modified separation reunion procedure (Cassidy, Marvin, & with the MacArthur Working Group on Attachment., 1987).

Concordance of the two instruments yielded a significant association for Secure versus Insecure attachment classifications and story Security scores, however there was no agreement in type of Insecure classifications (Avoidant, Ambivalent and Disorganized) between the two measures. The Attachment Q-Sort (AQS; Waters & Deane, 1985) was completed by the mother when the child was 25 months of age and at three years of age, while the SSP (Ainsworth et al., 1978) had been administered at 18 months of age, as this sample was part of a longitudinal study. Bretherton and colleagues (1990) reported a significant, although moderate association with the SSP and the first AQS, however the AQS administered concurrently was significantly correlated with the classifications of the ASCT. Thus this instrument displayed mixed results concerning construct validity and Bettman and Lundahl (2007) advise researchers to use this attachment instrument with caution.

Further, Pierrehumbert and colleagues (2009) conducted a study involving the collaboration of 10 researchers across five countries (Switzerland, Spain, Italy, Chile, and Belgium) to examine interactions between gender and attachment cross culturally with a sample of 534 children with a mean age of 53 months, to which they administered the ASCT. Interestingly, the narratives were coded using a new coding system, a Q-sort modeled after the AAI, the SAT and the ASCT (Miljkovitch, Pierrehumbert, Bretherton, & Halfon, 2004), described in detail in Chapter 3. Pierrehumbert and colleagues (2009) assessed interrater reliability using the Swiss and Spanish samples comprisised of 98 cases coded by 10 raters. Intraclass correlation coefficients for the Swiss sample ranged between .85 to .94 for the four Q-scores and .82 to .92 for the three scales. For the Spanish sample, they ranged between .69 to .81 for the Q-scores and .76 to .77 for the scales.

Collaboration between Buchsbaum, Emde, Bretherton, Ridgeway, and Oppenheim led to the development of the MacArthur Story Stem Battery (MSSB), a

more comprehensive tool comprised of 14 story stems and used to assess multiple internal representations including attachment, moral, social, and emotional development for early middle childhood. The story stems are used in a more open ended fashion and only one prompt is used by the interviewer if the child does not address the main issue of a particular story. Although there are standard instructions, the developers of this instrument did not intend for it to be administered in a standardized fashion (Bretherton & Oppenheim, 2003). Indeed, it seems that some researchers have followed this advice and have used variations of this instrument, as well as different coding systems, whereas other have integrated some stories from the MSSB along with their own.

One such example is the Story Stem Assessment Profile (SSAP; Hodges et al., 2005), developed for children between the ages of four and eight. The SSAP is comprised of 13 stories, eight of which were derived from the MSSB, developed to elicit information concerning children's perception and expectations concerning relationship and attachment with the parents. Narratives are rated on about 30 themes on a four point scale, then reduced to four composite scores representing global constructs of Security, Insecurity, Disorganization, and Avoidance (Hodges et al., 2005). Reliability was reported as overall 87% agreement on the scales and high internal consistency for the composite scores (Hodges et al., 2005). Further support was offered by Roman, Palacios, Moreno, and Lopez (2012) using a sample of 40 Russian children adopted by Spanish families, 50 children from Spanish institutions and 58 normal Spanish children. Agreement between coders for the composite scores ranged between a kappa of .85 to .90. Internal consistency for the composite scores ranged between alpha coefficients of .82 to .89.

More recently, the ASCT (Bretherton, Prentiss, & Ridgeway, 1990) was modified for use with children in middle childhood by Granot and Mayseless (2001) to assess their internal working models of attachment with the mother. The stories were drawn from the larger story set of MSSB, six of which had the same themes used by the ASCT. Granot and Mayseless (2001) made modifications to the procedure to activate the attachment of this older age group. Each story is introduced to the child, followed by a "Show me what happened next" question and prompts are used when encouragement is needed. An amalgamation of existing coding systems were utilized to create the system used, resulting in a Secure or Insecure classification assigned to each child and an overall main attachment classification of

Secure, Avoidant, Ambivalent, and Disorganized. Using this system involves training and assessment reliability, in order to be used correctly by coders.

This instrument was developed and assessed using a group of 113 Israeli children and the findings reported agreement for both security category and four-way attachment classifications, as indicated by 80% agreement with a kappa of .68 and 85% with a kappa of .77, respectively. Also, the results of test-retest reliability after a three month period yielded an agreement of 94% with a kappa of .91.

1.3.3.3.1. Manchester Child Attachment Story Task (MCAST).

The MCAST was developed by Green, Stanley, Smith, and Goldwyn (2000) to assess the internal working models of children between the ages of five to seven years. The MCAST is a doll play, story stem measure, however it differs from other such instruments in that it focuses on one caregiver at a time, various scenarios are included, the child is encouraged to identify with the dolls figures, and induces a level of anxiety in the child before each story stem completion.

1.3.3.3.1.1. Procedure.

The MCAST takes about 30 minutes to administer and begins with the interviewer familiarizing the child with the dolls and props and is comprised of six vignettes that are presented to the child. The first one is an introductory non-attachment vignette, followed by five related to attachment and distress. These involve waking up from a nightmare, falling and hurting his/her knee, acute abdominal pain, argument and rejections concerning a friend and getting separated from the parent while shopping in a large crowd. The interviewer presents each vignette making sure the child becomes actively engaged and the child is then asked to complete the story with the props provided. When the story is completed, the interviewer continues with specific questions "aiming to clarify the intention behind the play and degree of assuagement and to prompt mental state attribution to the dolls" (Green, Stanley, Smith, & Goldwyn, 2000, p. 51).

1.3.3.3.1.2. Coding and classification.

Coding is based on videotaped MCAST administrations and takes between one to two hours depending on complexity. This process involves a departure from other story stem completion tasks in that it incorporates features of behavior analysis used for the SSP and discourse analysis of the AAI. Therefore, analysis of the narrative includes both content and structure, resulting in 33 codings for each vignette on a nine point continuous scale, collapsing into four categories: (a)

attachment related behaviors including patterns of proximity, particulars of caregiving behavior, self-care and displacement behaviors, conflict and reversal behaviors, and extent of assuagement; (b) narrative coherence adapted from the AAI, specifically pertaining to violations of Grice's maxims (1975); (c) disorganized phenomena modeled after the SSP and AAI are assessed through doll play content as well as verbal and non-verbal behavior; and (d) further ratings are made concerning "bizarreness" of narrative content, principal affect, mentalizing and meta-cognition of the child (Green, Stanley, Smith, & Goldwyn, 2000, p. 53). Analysis by raters yields an overarching attachment strategy and attachment classification across vignettes corresponding to Secure (B), Dismissing (A), Preoccupied (C), and Disorganized (D), with a sub-classification assigned to Disorganized interviews. For interviews lacking an overall attachment classification a Cannot Classify (CC) coding is assigned.

1.3.3.3.1.3. Interrater reliabilility.

The first study conducted by Green and colleagues (2000) with a group of 53 children between the ages of five and seven, indicated agreement of 94% ($\kappa = .88$) for two-way classification, 82% ($\kappa = .41$) for Disorganized versus non-Disorganized, and 91% ($\kappa = .74$) for the categories of A/B/C/CC, excluding Disorganized attachment. Sub-classifications assigned to Disorganized interviews yielded an agreement of 80% ($\kappa = .62$). Interclass correlations for the scales of Mentalizing/metacognition, Disorganization, and Narrative coherence were .54, .76 and .85. Agreement between coders was further assessed in a study conducted in Italy by Barone and colleagues (2009) with a large sample of 230 children between the ages of four and eight years. Two-way agreement had 86% agreement ($\kappa = .72$) and the four-way classification (A, B, C, D) had 78%.

Individual interclass correlation of scale scores for the four "distress" vignettes were moderate for all scales except, Proximity-seeking, Self-care, Reversal, and Exploratory play, which were poor, ranging between .23 to .44. However, these ICCs were higher when calculated across the 4 vignettes, ranging between .71 to .92 for all scales, except the Self-care scale which was somewhat lower at .55 (Barone et al., 2009).

1.3.3.3.1.4. Content validity.

Analysis of content validity indicated that three factors emerged, the first one discriminated Security from Insecurity and Disorganization from Non-

disorganization and the second and third discriminated between Insecure groups (Green et al., 2000).

1.3.3.3.1.5. Test-retest reliability.

Stability was assessed after an interval of about 5 months indicating 77% agreement for three-way classification and 69% agreement for Disorganized classifications (Green et al., 2000).

1.3.3.3.1.6. Construct validity.

Construct and concurrent validity as assessed by comparing the MCAST with the AAI did not find significant agreement between AAI classifications of mothers with MCAST classifications of children. However, concordance was significant for maternal Unresolved classification and child Disorganization as evidenced by a 77% ($\kappa = .59$). There was also high agreement between MCAST coherence for Disorganized children and the AAI coherence for mothers ($r = .61$, $p < .0005$). When MCAST and SAT two-way classification were compared, agreement was significant but moderate with a kappa of .41 (80%). Also, assessment of temperament and behavioral problems by parents and teachers did not yield a significant relation to MCAST scales for attachment behavior or Disorganization (Goldwyn, Stanley, Smith, & Green, 2000).

Assessing the relationship between various MCAST scales and age indicated significant correlations with Coherence, Mentalizing, Caregiver warmth, Assuagement, Displacement, Proximity-seeking, and Presence of bizarre play, with older children displaying less Disorganization (Green et al., 2000).

1.3.3.3.1.7. Discussion.

As evidenced by the lengthy explication above, many efforts have been made to develop appropriate instruments to assess attachment relationships and representations. However, due to the vast variability and the mixed results reported by each measure or the often lacking information concerning reliability and validity, it is very difficult for data to converge and point to a particular instrument that could be considered as approaching a gold standard for either early or middle childhood. Also, a serious limitation of representational instruments as offered by Shmueli-Goetz and colleagues (2008) is that:

> representational measures rest on the assumption that a child applies knowledge of his/her own family to the standard drawings, but such an assumption fails to consider that elicited representations may reflect other (e.g., cultural) ideal

> representations, or representations that are not veridical or that contain distortions of the child's own subjective experiences. Semantic knowledge of cultural stereotypes, wishful thinking, or episodes witnessed secondhand do not necessarily tell us anything helpful about the child's expectations of his/her own attachment figures' emotional availability. (p. 940)

1.3.4. Self-report measures.

Another approach to measuring attachment in middle childhood is self-report measures (i.e., questionnaires). Although efforts have been made over the years to develop self-report instruments, only the Security Scale and the Coping Strategies Questionnaire were considered relevant.

1.3.4.1. Security Scale.

The Security Scale developed by Kerns, Klepac, and Cole (1996) was developed as a self-report questionnaire for children in middle childhood, to assess Security in particular parent-child relationships as perceived by the child. The items comprising this instrument are designed to tap the belief of the child that: (a) attachment figures are responsive and available, (b) attachment figures can be used as a safe haven when distressed, and (c) he/she can communicate openly and easily with attachment figures.

1.3.4.1.1. Procedure and scoring.

The 15 items comprising this scale are presented using Harter's (1982) format to reduce social desirability bias (Kerns et al., 2005). Responses are presented as statements about two kinds of children and they are asked to select the one that is most similar to him/her, following by rating of whether the statement is *really true* or *sort of true* of how characteristic this statement is of the child. Coding involves rating each item on a four-point scale and averaging scores across all items yielding a continuous score of overall Security (Kerns, Klepac, & Cole, 1996) ranging between 15 and 60 (Granot & Mayseless, 2001) with higher scores indicating a more Secure relationship with the attachment figure (Kerns, Tomich, Aspelmeier, & Contreras, 2000).

1.3.4.1.2. Internal consistency.

Studies conducted using the Security Scale reported alpha coefficient ranging between .63 to .93 for mothers (Kerns et al., 1996; Kerns et al., 2000; Kerns, Aspelmeier, Gentzler, & Grabill, 2001) and .82 to .88 for fathers (Kerns et al., 2000;

Kerns et al., 2001). Overall this instrument has demonstrated good to high internal consistency across various samples of children, with the exception of lower internal consistency reported only for third graders (Kerns et al., 1996).

1.3.4.1.3. Test-retest reliability.

Assessment of short term stability was conducted after a two-week interval and yielded a correlation of .75 (Kerns et al., 1996), indicative of stability. To assess long term stability the Security Scale was administered to children when in third and fifth grade. For assessment of attachment to mother the association did not reach significance, however for father the correlation was moderate and reached statistical significance (Granot & Mayseless, 2001; Kerns et al., 1996; Kerns et al., 2000; Kerns et al., 2001; Lieberman, Doyle, & Markiewicz, 1999). Stability over a longer period of two years was assessed by Kerns and colleagues (2000) yielding a moderate significant correlation for father, but a non-significant correlation for Security to mother.

1.3.4.1.4. Associations with other attachment instruments.

Comparisons of the Security Scale with other attachment instruments indicated somewhat mixed results (Kerns et al., 2000). Also, associations between the Security Scale and the Coping Strategies Questionnaires (Finnegan, Hodges, & Perry, 1996), assessing Avoidant and Preoccupied coping strategies indicated that for both parents, children in all three school grade levels (i.e., third, fifth, and sixth) yielded a significant negative correlation between felt Security and Avoidant coping. Surprisingly, felt Security and Preoccupied coping was significantly and positively related between fathers and fifth grade children, similarly for both mothers and fathers of sixth grade children. However, this association was not observed between mothers or fathers of third grade children (Kerns et al., 2001). Further comparisons conducted by Granot and Mayseless (2001) using their adaptation of the Doll Story Completion Task showed a positive and significant moderate correlation between the score of the Security Scale and the Secure prototype of the Modified Doll Story Completion Task and a negative and significant moderate correlation with the Avoidant prototype. The correlations with the Ambivalent and Disorganized prototypes were not significant.

1.3.4.1.5. Discriminant validity.

Two studies found some evidence of discriminant validity as indicated by Security of attachment being unrelated to both athletic competence as reported by the

child and scholastic grade point average (Kerns et al., 1996; Verschueren & Marcoen, 2002).

1.3.4.2. Coping Strategies Questionnaire.

Another self-report instrument available in this field is the Coping Strategies Questionnaire (Finnegan et al., 1996) developed to assess Preoccupied and Avoidant style of coping when engaging with attachment figures during commonly occurring stressful events such as separations.

1.3.4.2.1. Procedure and scoring.

The questionnaire is comprised of 36 items, half of which related to Preoccupied coping and the other half to Avoidant coping. It asks of children to imagine a particular event as it is conveyed to them by each item and then respond. The response format is similar to the one used by the Security Scale mentioned above following Harter's (1982) format. The items are assigned values of 0, 0, 1, and 2, resulting in two scores being computed for each child, an overall score for the Preoccupied scale and an overall score for the Avoidant scale (Finnegan et al., 1996).

1.3.4.2.2. Internal consistency.

Internal consistency as assessed by the developers of this instrument yielded alphas of .86 for the Preoccupied and .84 for the Dismissing scale (Finnegan et al., 1996). Two studies conducted using children between the ages of 10-12 years old (Kerns et al., 1996), assessment of internal consistency indicated that respectively for third, fifth and sixth graders, reliability alphas were .87, .74, and .88 for Preoccupied coping concerning mother and .87, .76, and .84 concerning father. For Avoidant coping, using the same order mentioned previously, alphas were .71, .80, and .71 concerning mother and .86, .89, and .83 concerning father. Correlations between scores for Preoccupied coping with mother and father were all significant with coefficients of .60, .88, and .79, respectively for third, fifth and sixth graders. For Avoidant coping for mother and father, following the same order as above, correlations were .27, .54 and .63.

1.3.4.2.3. Test-retest reliability.

Short term assessment of test-retest reliability of the Coping Strategies Questionnaire indicated stability for both scales as evidenced by a correlation of .83 for the Preoccupied and .76 for the Dismissing scales (Finnegan et al., 1996). Stability after a one year interval was found to be lower with a correlation of .65 and

.53 for Preoccupied and Dismissing scales, respectively (Hodges, Finnegan, & Perry, 1999). Assessment of stability after a two year interval was modest as indicated by a correlation coefficient of .51 for both parents concerning Preoccupied coping and .31 for Dismissing coping with mother and .55 for father (Kerns et al., 2000).

1.3.4.2.4. Associations with other attachment instruments.

Association with the Security Scales was described previously, with the Dismissing scale displaying expected relation to Security, but with an unexpected significantly positive relationship between Security and Preoccupation (Kerns et al., 2000). In the same study, a comparison between the Preoccupied and Dismissing scales and the SAT (Resnick, 1993) indicated that Preoccupied coping with mother did not reach a statistically significant correlation with Emotional openness, Coherence, or Secure attachment. A negative, significant relation was only observed between Preoccupation and Dismissing/devaluation of attachment. Also, Dismissing coping with mother was significantly and negatively correlated with Emotional openness and Secure attachment; and showed a significant positive relation to Dismissing/Devaluation. For father, only Dismissing coping showed a negative, significant correlation to Coherence and Secure attachment classification.

1.3.4.2.5. Discussion.

When using questionnaires to assess children's perception of attachment to their primary caregiver, the information obtained is only that which is consciously available to the child, whereas narrative approaches mentioned previously, were developed to tap into both the conscious and unconscious aspects of attachment, where coders incorporate analysis of both narrative content and the way in which this information is conveyed (Kerns et al., 2005). Therefore, self-report instruments are inherently limited in their ability.

Studies concerning both of the self-report measures mentioned, the Security Scale and the Coping Questionnaire provide some evidence supporting reliability and validity. However, some results are somewhat unclear making additional studies necessary to further assess the psychometric properties of these instruments, including convergent and discriminant validity and also the association of these questionnaires with measures of attachment using different methods of assessment, such as narrative measures (Kerns et al., 2005). It should also be noted that using questionnaires has several limitations, such as the responses of children being influenced by demand characteristics (Kerns et al., 2005), using cues about the study,

to guide their responses (Shaughnessy, Zechmeister, & Zechmeister, 2003) rather than honestly reporting to what the questionnaire is trying to tap – their perception of attachment. To counterbalance this, it is probably best for studies to include additional measures of attachment and not rely solely on one measure or one informant, hence raising some doubt about self-report measures as adequate tools to assess attachment in middle childhood.

Lastly, it is important to clarify that although the Coping Strategies Questionnaire was included in this review of attachment measures for comparison purposes, it has two important limitations that were identified by the developers of this instrument. These are the following: (a) this instrument measures "styles of coping" stemming from Insecure attachment and cannot be considered a direct measure of Insecure attachment; and (b) this instrument should be used in research interested in studying "styles of Insecure attachment" and they suggest also including a measure to assess felt security, with this combination possibly enabling the categorization of a Secure or Insecure attachment classification (Finnegan et al., 1996). Therefore, again it returns to the point that it is best for researchers not to use either one of these measures alone and researchers should probably exercise caution when including self-report instruments in studies concerning attachment in middle childhood.

1.3.5. Future directions and conclusions.

1.3.5.1. Electronic versions.

Interestingly, in recent years, there seems to be an increasing trend toward creating electronic versions of attachment measures and scoring systems constituting an interesting new approach in the field of assessment with respect to attachment relationships and representation. Considered the widespread technological advancement in all fields, it seems that this is the new direction that measures may take. For instance, a computerized version of the MCAST, named the Computerised Manchester Child Attachment Story Task (CMCAST; Minnis et al., 2010) has been developed and can be used on any ordinary computer. The story stems are presented on the computer screen using two dimensional "dolls" and a standard voice as the narrator. The child completes the story stem by using the computer and speaking aloud providing a visual and audio recording of the interview (Minnis et al., 2010).

The aim of developing the CMCAST was to develop an attachment instrument that was "valid, reliable, easily portable and cost effective" (Minnis et al., 2010, p. 234). To assess this computerized version, a sample of 82 children between ages of five to eight years with 50% having a clinical diagnosis ("clinic-based sample) and another sample of 86 normal children ("school-based sample") were recruited.

Interrater agreement for the four-way attachment classification (A,B,C,D) of both the MCAST and CMCAST for the clinic-based sample yielded a kappa of .93 and .91, respectively. Concordance between the two measures was 76% agreement with a kappa of .63 for four-way classifications and 84% agreement with a kappa of .67 for Secure-Insecure split. The school based sample had an 85% agreement between coders for four-way classification with a kappa of .44 (Minnis et al., 2010).

Another example is development of an electronic version of the MSSB, named the Computerized MacArthur Story Stem Battery (CMSSB; Minnis et al., 2006), including the six story stems that research supports as replicable and valid. Researchers embarked on this somewhat challenging task with the aim of creating a measure that could be administered to a large sample at once without requiring a highly trained individual, thus reducing cost, in a consistent manner and possibly make testing more comfortable for children. It would potentially make available an instrument that is cost and time efficient and a pleasant experience for a child. The process is similar to that of the MCAST, with the addition of an animated character providing structured prompts. Children responses on the computer and verbal responses are recorded for subsequent use during coding. The CMSSB displayed good interrater reliability (Minnis et al., 2006).

An example of electronic scoring is mentioned by Kerns, Tomich, Aspelmeier, and Contreras (2000), where SAT interviews were computer scored and to check reliability a subset of 25 interviewers were compared with manually derived score, yielding a kappa of .35 for three-way classification and .61 for the Secure-Insecure split. Gamma, a statistic similar to kappa, was used to assess reliability on scales, with values ranging of .94 for Emotional openness, .83 for Dismissing, and .61 for Coherence.

1.3.5.2. Attachment measures.

In recent years, a growth in the development of measures to assess attachment in middle childhood has been observed. However, a serious limitation is validation of these instruments (Kerns et al., 2005). Also, the current multitude of instruments and coding systems can make it quite perplexing to make sense of things and decide which instrument is most applicable and reliable for particular research and clinical purposes, as it could be that different instruments measure different aspects of the attachment construct. However, this plethora of instruments can also be seen as positive because the availability of multiple approaches can help alleviate concern that a study using only a single measure of attachment is actually researching the construct or a particular facet of that construct and not the measure (Kerns & Seibert, in press). Furthermore, as Ainsworth explained almost 25 years ago,

> it now seems essential to search for new procedures for assessing quality of attachment. Not only is it desirable to find procedures well adapted to different developmental levels, but at any level it seems to me to be desirable to have more than one procedure available. This would perhaps have become evident sooner had not the Strange –Situation procedure for 1-year-olds provided such a robust method. It is not clear that any single one of the new procedures available for childhood beyond infancy are similarly robust" (Ainsworth, 1990, p. 481).

Moreover, Ainsworth referenced previous work by Main and colleagues (1985) as an example, where multiple assessments were used to assess convergent validity, and although such validity was supported, the measures did not necessarily appear to be interchangeable. Therefore, Ainsworth argued that "greater eventual depth of understanding is to be obtained through their combined use" (Ainsworth, 1990, p. 482). Perhaps then the current situation inevitably requires multiple assessments of attachment within each study until further clarity is available, but as explained previously the extensive training and cost required of most instruments makes this extremely challenging to implement, particularly for large studies.

To conclude, although 25 years have passed since Ainsworth wrote about this matter, it seems that the field of assessing attachment relationships and representations still seems to be a developing field. Although great strides have been made over recent years, there is still much work to be done to develop an instrument that is reliable and valid. Perhaps, following the example of the CAI, the best

approach may be an integrative one, encompassing features of both behavioral and representational measures, coupled with a refined coding system, and an electronic version, may help pave the way for an instrument to reach gold standard status among the family of attachment measures.

The next chapter will continue to explore this predicament and focus on another impediment to developing a robust instrument to measuring attachment in middle childhood, namely what is best approach to measuring and coding attachment Disorganization.

Chapter 2: Disorganized Attachment

Disorganized children are those that are unable to organize their attachment behavior to achieve feelings of safety and security (Howe et al., 1999). As Hennighausen and Lyons-Ruth (2005a), aptly describe, Disorganized attachment "represents signs of malfunction of the attachment relational system," (para. 1). It is that very relationship between the parent and child that has the function of regulating the arousal of stress and feelings of Security experienced by the child. The quality of regulation of "fearful affect" that this relationship provides is of paramount importance for the child to feel safe enough to divert attention from issues concerning threat and Security and direct it towards exploratory play activities necessary for development.

Disorganized children experience the activation of the attachment system without termination (Shemmings & Shemmings, 2011). As Howe and colleagues (1999), explain,

> "children who *cannot organize* their behavior or develop a defensive strategy to achieve proximity or security find that their distress and arousal remain heightened and unregulated. These infants find it difficult to maintain a functional and developmentally positive relationship with their caregiver…whatever behavioral strategy the children use, it fails to bring proximity, care or comfort. With no clear way to regulate their arousal affect… their attachment behavior becomes increasingly *incoherent* and *disorganized,* showing a confused mix of avoidance, angry approach responses, behavioral disorientation and inertia. In some cases, reunion with or proximity to the parent produces either emotional conflict, fearful behavior, depression or profound withdrawal. Without an organized attachment strategy, children may freeze, either physically or psychologically." (p. 29)

or possibly both because since their attachment system is activated without termination, "given the option of 'fight, flight or freeze' the child's brain selects the latter as the 'least worst' option" (Shemmings & Shemmings, 2011, p. 10), and although on exterior all seems calms, internally the child is experiencing great turmoil.

2.1. Prevalence and Origins of Disorganized Attachment.

In normal samples about 15% of children are Disorganized, while this figure reaches as high as 48% in maltreated samples (Van IJzendoorn, Schuengel, & Bakermans-Kranenburg, 1999). However, other studies using high risk samples have found a prevalence as high as 80% (Carlson, Cicchetti, Barnett, & Braunwald, 1989).

Starting in the 1980s and for many years, several researchers had reported difficulties in classifying children using the tripartite (A, B, or C) classifications assigned by the SSP (Crittenden, 1985; Egeland & Sroufe, 1981b; Gaensbauer & Harmon, 1982; Lyons-Ruth, Connell, Zoll, & Stahl, 1987; Main & Weston, 1981; Radke-Yarrow, Cummings, Kuczynski, & Chapman, 1985) using samples from normal, maltreated and high risk populations. Although all seemed to be grappling with the same problem of categorizing and describing previously "unclassifiable" cases, there was a great deal of variation between the information provided by each study. Essentially what was lacking was a consolidation of all the information observed to formulate a common language and procedure that could be used by all researchers.

Main and Solomon (1990; 1986) provided just this by initially analyzing 55 SSP videos, where the infants could not be classified into any of the existing attachment classifications of A, B, or C. The infants failed to meet the classification criteria and the authors were surprised to find that the infants shared no similarities that could formulate a new attachment classification. There seemed to be a lack of coherency and organization to the strategy employed by these children. The only commonality was episodes or sequences of behavior that lacked an observable purpose, intention, or explanation. An organizing term to these rather diverse behaviors was assigned – *Disorganized and/or disoriented.*

They then undertook the arduous task of analyzing 200 SSP videos of children judged to be Disorganized/disoriented (D) derived from upper-middle class, maltreated, and high risk samples. This resulted in the identification of seven indices describing D infants, enabling other researchers to identify and score SSP videos corresponding to this new attachment classification. These indices are:

> (1) sequential display of contradictory behavior patterns; (2) simultaneous display of contradictory behavior patterns; (3) undirected, misdirected, incomplete, and interrupted movements and expression; (4) stereotypies,

> asymmetrical movements, mistimed movements, and anomalous postures; (5) freezing, stilling, and slowed movements and expressions; (6) direct indices of apprehension regarding the parent; and (7) direct indices of disorganization or disorientation. (Main & Solomon, 1990, p. 136)

The selection of the term Disorganized and/or disoriented, led to the creation of a category that would encompass all of the behavior observed among unclassifiable infants, but because of the heterogeneity of this group, an exhaustive list of all possible behaviors exhibited by Disorganized or disorientated behavior could not possibly be formulated.

The work of Main and Solomon was pivotal in providing a "conceptual cornerstone" of understanding Disorganized attachment (Lyons-Ruth & Jacobvitz, 2008, p. 668). Prior to the indices and classification procedure provided by Main and Solomon (1990), a perplexing finding of other studies was that unclassifiable children with known history of abuse and neglect, when forced into one of the existing attachment classifications were judged Secure (B) (Crittenden, 1987; Crittenden & Ainsworth, 1989; Egeland & Sroufe, 1981a; Gaensbauer & Harmon, 1982).

2.2. Irresolvable Fear

Central to understanding Disorganized attachment is the concept of "fear without solution." Under normal circumstances, the attachment figure would be considered the solution to ameliorating the distress that an infant feels. However, Disorganized children experience the parent as frightening and are subsequently faced with a paradox of wanting to approach the parent who is simultaneously "the source of and solution to its alarm" (Main & Hesse, 1990, p. 163). Therefore, during the SSP a Disorganized child perceived as displaying anomalous behavior such as freezing is actually experiencing the simultaneous activation of conflicting impulses, both wanting to approach the caregiver as a safety haven and flee from the caregiver as the source of fear (Main, 1996). In essence the child understands that there is no alternative solution to its distress. Hence, its behavioral strategy has collapsed because it can neither approach as would a Secure or Ambivalent infant, nor dismiss as would the Avoidant infant nor flee (Main, 1995).

2.3. Cannot Classify Category

Hesse (1996) reported the formulation of a new, fifth attachment category for the AAI, named "Cannot Classify," identified with Main during the early 1990s, when they noticed that "a small percentage of transcripts…failed to meet criteria for placement in one of the three central or organized attachment categories" (Hesse, 2008, p. 572). This category was different from the others, as it represented interviews indicating "a global breakdown in the organization and maintenance of a singular strategy for adhering to the discourse tasks of the AAI" (p. 4). Whereas, Unresolved-disorganized cases present "temporary lapses in monitoring of reasoning or discourse" when discussing traumatic events, with the Cannot Classify category the collapse of discourse is observed at a macro rather than a micro level (Hesse, 1996, p. 5).

Hesse (1996) further explained that, Cannot Classify categorization is mostly considered in relation to three organized attachment classifications because these classifications represent the interviewees "global or overall strategy with respect to the discourse task" of the AAI (p.8). Some cases assigned a CC classification evidenced two theoretically opposite states of mind (Dismissing and Preoccupied). Whereas, other CC transcripts display low Coherence scores which prevent a Secure-Autonomous categorization, with no other scores high enough to allow classification of Dismissing or Preoccupied. Also, in comparison to Unresolved cases, who display "a breakdown in strategy in an isolated area (discussions of trauma), " CC cases, "whether through extreme contradiction or through a general inability to rally an organized stance – point to a breakdown in a strategy at a global level" (Hesse, 1996, p. 8).

Following the Main & Goldwyn (1985-1994) AAI scoring and classification manual, assigning an interview to the Cannot Classify category occurs when a single state of mind with respect to attachment does not predominate. The interviewee "may shift state of mind in mid-interview, e.g. moving abruptly from a Dismissing to a Preoccupied stance, or may manifest two distinct states of mind with respect to two different individuals" (as cited in Hesse, 1996, p. 6). CC cases can also be described as refusing to partake in the interview, "low coherence without strong indices of an Insecure state of mind, an equally evidenced combination of Insecure and Secure strategies, and other anomalies such as inserting frightening events into historic

recounting without introduction or context as though to affect the interview (Hesse, 2008; Main et al., 2003; Main, Hesse, & Goldwyn, 2008; Minde & Hesse, 1996)" (Goldwyn & Hugh-Jones, 2011, p. 170).

Studies indicated that this rare AAI classification seems to be most frequently assigned among clinical samples, such as criminal offenders hospitalized in a psychiatric ward (Levinson & Fonagy, 2004; Van IJzendoorn, Feldbrugge, Derks, & de Ruiter, 1997), males acting violently towards their spouses (Holtzworth-Munroe, Stuart, & Hutchinson, 1997), previously psychiatrically hospitalized young men (Allen, Hauser, & Borman-Spurrell, 1996) and sexually abused women (Stalker & Davies, 1995). These findings indicate that the Cannot Classify category relates to psychopathology, supporting the notion that this category is not a "wastebin" for cases that cannot be coded using the current system of the AAI (Hesse, 1996).

An issue that still remains is that although studies confirm that this type of classification "appears most frequently in troubled populations" (Hesse, 2008, p. 573), interviews assigned the Cannot Classify category are still rare making it difficult to establish psychometric properties, such as coding reliability and stability or examine the transmission of this adult classification to offspring (Hennighausen & Lyons-Ruth, 2005b; Hennighausen, Bureau, David, Holmes, & Lyons-Ruth, 2011; Hesse, 2008) . However, Hesse (2008) does suggest that adults assigned to the Cannot Classify category on the AAI may be more prone to have children with Disorganized or Unclassifiable attachment.

Lastly, it is worth mentioning the feasibility study by Goldwyn and Hugh Jones (2011), assessing the usability of the AAI with adolescents diagnosed with Reactive Attachment Disorder (RAD). This was the first ever study to assess attachment among a RAD sample using the AAI. Although this small pilot study had limitations acknowledged by the authors, (e.g. a small sample size of only 10 individuals), its findings are interesting. The results indicated that it is possible to assess attachment among these adolescents using the AAI and 50% of the sample (*n* = 5) were categorized as Cannot Classify. However, the most interesting finding was that an adolescent with the pseudonym, Zoe, a case characterized as "complex" and "interesting" to code, was hypothesized by the authors to suggest that "CC may also constitute a transitional strategy, indicating a possible route to a more organized state of mind. It was Zoe's resignation about the futility of relationships, alongside her reported personal responsibility and of wanting things to be different, that appeared

indicative of an emerging "autonomous" (if not slightly contemptuous) acceptance of the nature of attachment relationships in life" (p. 183). This hypothesis seemed to be supported by the changes reported in Zoe's RAD behavior from the clinical to non-clinical level. Although this hypothesis stems from the observation of only one case, it provides stimulating ideas for further thought and research.

2.4. Assessment

2.4.1. Strange Situation Procedure (SSP).

The SSP coding procedure for Disorganized/disoriented classification explains that after the coder attempts to assign one of the organized classifications (A, B, or C), he/she should then review the seven indices of Disorganized behavior, to see if the child matches one of the indices or examples. If the child presents one of the "very strong" indicators, for example under the undirected, misdirected, incomplete and interrupted movements and expressions index – "infant rises or begins approach immediately upon reunion, but falls prone in 'depressed' huddled position" (Main & Solomon, 1990, p. 137), then D classification is immediately assigned. If this is not present, then the coder must decide if a D classification should be assigned if the behavior of the infant

> appears *inexplicable with respect to the immediate context in which it is observed*; and/or if the infant appears to the observer to be *without a behavioral "strategy"* for dealing with its immediate situation; and/or if the behavior can be explained only by the assumption that the infant is either *fearful of the attachment figure, or is fearful of approaching the attachment figure.* (Main & Solomon, 1990, Table 2, p. 148)

Disorganization is then assigned on a 9-point scale and a best fitting alternative classification is also assigned (Main & Solomon, 1990). Also, "bouts of Disorganized/disoriented behavior sufficient for assignment to the category are often brief, not infrequently consisting in just one episode lasting 10-30 seconds. Such brief episodes are nonetheless highly significant" (Main, 1995, p. 425).

Studies during toddlerhood have indicated low or nonsignificant stability levels concerning D attachment (Belsky, Campbell, Cohen, & Moore, 1996; Zimmerman et al., 2000), however this could be explained by an increase is frequency of D classification between 12 and 18 months of age (Lyons-Ruth,

Yogman, Melnick, & Atwood, 2003; Vondra, Shaw, Swearingen, Cohen, & Owen, 2001).

2.4.2. Sixth year reunion procedure.

Using the Main-Cassidy system, reunions are scored and subsequently classified into similar A, B, C categories as the SSP. However, Disorganized children are not classified as such, instead they fall into a new category titled Insecure-Controlling (D) with two subtypes Controlling-punitive (D_1) and Controlling-overbright/caregiving (D_2). Disorganized attachment during this age is believed to transform into more organized attachment pattern taking the form of controlling behavior (Main & Cassidy, 1988).

Assessment of stability over a 1 month period was surprisingly moderate (50%) and in general D classifications were highlighted by the authors as a limitation of the system and characterized it as being 'relatively unreliable. " In the second study reported by the authors 75% of the disagreement between judges was based on this classification. These findings indicated that further refinement of the coding procedure for D classifications is needed (Main & Cassidy, 1988).

2.4.3. Child Attachment Interview (CAI).

The CAI coding section on Disorganization explains that this classification does not receive a scale rating, as with the other subscales contained in this instrument, nor is this classification based on a particular constellation of scores on subscales, as with the other attachment classifications. Instead, an interview is classified as Disorganized if markers, such as bizarre behavior, controlling behavior towards the interview, oscillating between excited and frightened feelings are presented at any point during the interview, even if very briefly. These markers were informed by attachment theory, previous research findings, and detailed analysis of CAI interviews and transcripts. The authors noted that these indicators are not exhaustive of all Disorganized behavior (Shmueli-Goetz, 2001) and that although research is progressing in this area, information about how disorganization in infancy translates and manifests in middle childhood is lacking (Shmueli-Goetz et al., 2004). However, these markers are a beginning in formulating a comprehensive translation or common language. If an interview is assigned a Disorganized classification, a

secondary alternative classification (Secure, Dismissing, or Preoccupied) is also assigned.

Applying the CAI coding system to a normal sample found that 4% of the children were Disorganized, a finding consistent with that of other studies. However, application to a sample clinically referred children, surprisingly found 8% only as Disorganized. As explained by the researchers perhaps this was due to mild psychological problems in the referred groups, conservative coding to avoid overclassification, but more importantly perhaps this points to limitations of the criteria proposed by the authors to cover the full spectrum of attachment Disorganization as displayed in middle childhood. Overall, the findings of the referred group study did provide information about how Disorganization is manifested in this age group. Four Disorganized children displayed Disorganized behavior at both the representational and behavioral level, some children displayed episodic indicators of disorganization, limited to only particular segments of the interview, while others displayed Disorganization consistently throughout the interview resulting in a very incoherent interview (Shmueli-Goetz, 2001; Shmueli-Goetz et al., 2008). However, this category did indicate stability over a 3 month test-retest period, where intriguingly all of the children where coded Disorganized on both occasions (Target et al., 2003).

2.4.4. Manchester Child Attachment Story Task (MCAST).

Following the MCAST classification system, Disorganized behavior is assessed during doll play by the child, in the narrative and non-verbal behavior. As described by Green and colleagues (2000),

> If two or more vignettes are pervasively Disorganized then the interview is rated pervasively Disorganized overall. Other Disorganized phenomena within the interview are coded on a nine-point scale reflecting severity and pervasiveness...the highest D coding on any vignette is taken to indicate the overall D status of the interview. Primary D coding is assigned an alternate classification. (p. 53)

In a study utilizing the MCAST to assess attachment in a normal sample, distribution of Disorganized attachment was 26% (Green et al., 2000), slightly higher to the distribution of 15% found across studies in a meta-analysis conducted by Van IJzendoorn, Schuengel, and Bakermans-Kranenburg (1999). Over a 5.5

month period, stability of the Disorganized group yielded 69% (Green et al., 2000). Furthermore agreement between AAI Unresolved and MCAST Disorganized classification was 77% ($k = 0.49$, $p < .01$) (Goldwyn et al., 2000).

2.4.5. Adult Attachment Interview (AAI).

Using the AAI, a narrative is assigned to the Unresolved/disorganized (U) category if on the scales of Unresolved loss or Unresolved abuse a score higher than five is assigned. If a scale score of five is assigned, the coder has to decide if the narrative fits this type of classification. As explained by Hesse (2008)

> During discussions of loss or abuse, individuals show striking lapse in the monitoring of reasoning or discourse. For example, individual may briefly indicate a belief that a dead person is still alive in the physical sense, or that this person was killed by a childhood thought. Individual may lapse into prolonged silence or eulogistic speech. The speaker will ordinarily otherwise fit Ds, E, or F categories. (Table 25.4, p. 571)

Two meta-analytic studies, conducted almost 12 years apart, with the latter including a much larger sample size, found that the distribution of Unresolved/disorganized attachment remained very much the same (Van IJzendoorn & Bakermans-Kranenburg, 1996; Van IJzendoorn & Bakermans-Kranenburg, 2008) at around 19% in a normal sample. Most early studies on stability focused primarily on the organized classification of the AAI, finding stability to range between 78% to 90% (Ammaniti, Speranza, & Candelori, 1996; Bakermans-Kranenburg & Van IJzendoorn, 1993; Benoit & Parker, 1994; Crowell et al., 1996; Sagi et al., 1994). However, a recent stability study including all four attachment classifications indicated the impressive figure of 86%, over a five year period (Steele & Steele, 2007 as cited in Hesse, 2008).

2.5. Following Disorganization across the Lifespan.

2.5.1. Infancy.

During infancy Disorganized attachment can be identified, as early as 12 months of age, using the SSP (Ainsworth et al., 1978) to observe the occurrence of anomalous behavior. In a meta-analysis of 10 studies ($n = 548$) carried out by Van IJzendoorn (1995), a significant association was found between Unresolved loss or trauma of the parents on the AAI and Disorganized attachment in infants.

Hesse and Main (1990) proposed that the missing link between parental Unresolved attachment classification on the AAI and offspring disorganization, is "a second generation effect" of the parent's Unresolved loss concerning an attachment figure, which results in frightened and/or frightening (FR) behavior during interactions with the infant. The second generation refers to the "mechanism by which the traumatic experiences of one individual can directly affect the development of a second" (Hesse & Main, 1999, p. 530). This occurs when a caregiver with unresolved mourning from a previous loss may still be frightened and consumed by this experience, although this traumatic experience is not real for the child. What feels very real is the actual encounters of the growing child with the parent, who at times behaves in a manner that is reflective of the "original traumatic experiences, fears and fantasies" (Main & Hesse, 1990, p. 530).

This may manifest in anxious behavior that may be perceived by the infant as frightening. Observations of these types of behaviors were grouped into two general categories, titled Unusual Vocal Patterns and Unusual Movement Patterns. Examples of the former are speaking in a "haunted" tone of voice or sudden changes in intonation that may startle a young child. Examples of the latter include moving very close to the child's face, movement indicating pursuit, invading the child's personal space while sliding hands around the infant's throat, and parents responding in an extreme manner to perceived rejection by the child (Main & Hesse, 1990).

As the authors explain, this type of FR behavior is most likely related to internal issues related to previous traumatic events experienced by the parent, rather than stemming from parent-child interactions. If this is indeed correct, then this experience is even more confusing for the child because not only does the behavior not make sense, but the origin of the behavior is completely incomprehensible. Furthermore, from the responses of the parent the infant may actually appear to be the one frightening the parent, therefore the parent may naturally want to flee from this frightening situation. Consequently, the internal fear and state of the parent may lead to outcomes that will puzzle and frighten the child, and lead to Disorganized and disoriented behavior (Main & Hesse, 1990).

Hence, when during the SSP, a child is unexpectedly alarmed by the parent and is observed attempting to increase proximity and then aborting this attempt by displaying Disorganized/disoriented behavior, this can probably be explained by the arousal of frightening memories of the parent, in the child's mind (Main & Hesse,

1990). Thus, "the infant is presented with an irresolvable paradox wherein the haven of safety is at once the source of the alarm" (Main & Hesse, 1990, p. 180). This paradoxical, frightening situation the infant finds itself, may temporarily affect normal function of attention, conscious processing and information processing (Main & Hesse, 1990), possibly suggesting that this may serve as a basis for comprehending the links to psychopathology.

Several studies have examined parental FR behavior, Unresolved AAI classifications, and Disorganized attachment in their offspring. Jacobvitz and colleagues (2006) found that mothers with an Unresolved classification concerning loss and/or abuse exhibited higher levels of FR behaviors towards their eight month old infant, an association found to be significant, with no difference observed between mothers with a Secure or Insecure secondary classification on the AAI. Similarly, Schuengel and colleagues (1999) found that mothers with unresolved loss exhibited more frightening behavior toward their infants at 10 or 11 months of age, however there was a significant difference between mothers with Secure and Insecure secondary classification, with the latter showing increased FR behavior towards their infant.

Multiple studies examining the relationship between FR parental behavior and Disorganized attachment in children have confirmed the hypothesis of Main and Hesse (1990) indicating that the two are indeed related (Schuengel, Bakermans-Kranenburg, & Van IJzendoorn, 1999; Abrams, Rifkin, & Hesse, 2006; Lyons-Ruth, Bronfman, & Parsons, 1999; Tomlinson, Cooper, & Murray, 2005; True, Pasani, & Oumar, 2001).

2.5.2. Early childhood.

As Green and Goldwyn (2002) selectively reviewed the findings and theory concerning the developmental path and stability of attachment from infancy to childhood, and they reported that retesting of the SSP, indicated an increase in Disorganized behavior during a second year retesting, while a meta-analysis of longitudinal studies showed that Disorganized classification only yielded moderate stability. Surprisingly, samples from low socioeconomic samples yielded the lowest stability of Disorganization. As observations of Disorganized children progress past infancy, Disorganized infants begin displaying controlling and 'non-reciprocal' behavior towards their caregiver. This behavior can be hostile or role reversal, with

meta-analysis indicating "relatively high" stability between Disorganization in infancy and later relationship behaviors.

The authors explained that attachment in relation to preschoolers has "focused on attachment constructs as descriptions of *relationships,* and attachment theory contains a model of how these are incorporated into children's own internal cognitive representation of relationships as they grow older. The attachment construct thus increasingly becomes a *within-child* phenomenon" (Green & Goldwyn, 2002, p. 836). The authors mention studies using verbal responses to parent-child separation images and doll play completions of story stems focusing on separation, to explain that the responses of Disorganized children can be characterized as "bizarre in form and content with a lack of resolution of distress" (Green & Goldwyn, 2002, p. 836). Similarly "elements of bizarre fantasy" can be observed in family drawings. The culmination of these findings is that Disorganized infants go on "to show persistence of a disorganization or disturbance in internal mental state, existing alongside the development of interactional behaviors characterized by 'control' and lack of social reciprocity" (Green & Goldwyn, 2002, p. 836).

Stability of Disorganized attachment during the preschool years is further complicated by the variety of instruments available to assess attachment over the various developmental stages. The SSP only allows for a short age range during which Disorganized behaviors are displayed infrequently.

Main and Cassidy (1988) developed a classification system analogous to the SSP to assess the attachment of six year old children in relation to their SSP classifications during infancy and found that Disorganized children developed organized ways of relating to the parent, characterized as Insecure controlling behavior with two subtypes, Controlling-punitive and Controlling-overbright/caregiving. Overall these children attempted to purposely "control or direct the parent's attention and behavior and assume a role that is usually considered more appropriate for a parent with reference to a child" (p. 418). Controlling-punitive children displayed denigrating behavior toward the parent, while Controlling-overbright/caregiving children behaved solicitously and caringly toward the parent, in role-reversal type of manner (Main & Cassidy, 1988). In essence, as Zionts (2005) noted Disorganized children "redevelop themselves during preschool

years as either controlling-caregiving or controlling-punitive behaviors toward the primary caregiver" (p. 232).

The emergence of this transformation to controlling behavior can be explained as follows:

> If the attachment figure is the source of the infant's fear, it is understandable that the infant might respond with conflict behaviors (disorganized/disoriented behaviors), because approach to the parent (the usual response to fright experiences) is then not possible. However, as the child matures, a capacity to control and "organize" the parent's behavior may develop either through direct attempts to lift and guide the parent's mood or through simple directiveness. (Main & Cassidy, 1988, p. 423)

Support for these findings was provided by an additional longitudinal and prospective study conducted by Wartner and colleagues (1994) indicating a transformation from Disorganized attachment in infancy to Insecure controlling behavior at six years of age. Van IJzendoorn and colleagues (1999) combined these findings four studies and found a significant effect size between infant Disorganized classification and subsequent Controlling classification in 6 year old children from low risk samples.

However, O'Connor and colleagues (2011) stressed the importance of understanding Disorganized attachment during early childhood years (two to four), in particular their study focused on three year old children from the large prospective study (n = 1,364) of the National Institute of Child Health and Human Development Study of Early Child Care and Youth Development, following these children from birth. They described the ages between 2 to 4, as being a critical transitional period in the forms of Disorganization that children display. During this time, "clear subtypes emerge *within* the disorganized/controlling group, including controlling-caregiving, controlling punitive, controlling-mixed, and behaviourally disorganized profiles" these subtypes give rise to questions about Disorganized/controlling children constituting one group or four separate subgroups (O'Connor, Bureau, McCartney, & Lyons-Ruth, 2011, p. 450). Their findings indicated that three year old children categorized as Disorganized/controlling exhibited the most "maladaptive patterns," scoring on the lowest end of compliance and on the highest end of internalizing and externalizing problems of behavior, when compared to Secure and Insecure (organized) groups.

Disorganized/controlling children scored higher than Insecure organized children on about 89% of the maladaptive variables, indicating that Disorganized/controlling children are related to higher risk than Insecure children in general. At 4.5 years of age, these children were higher in internalizing and externalizing behavior problems and had the poorest relations with teachers. However, comparisons within the Disorganized/controlling group, pointed to the Behaviorally-disorganized and Controlling punitive subtypes as displaying more "maladaptive patterns" than the other two subtypes mentioned above, however there were no differences among the subtypes in internalizing and externalizing behavior (O'Connor et al., 2011).

Studies examining the correlates of controlling attachment in school age children, indicated difficulties in the areas of cognition (Jacobsen, Edelstein, & Hofmann, 1994) and academic performance (Moss, Rousseau, Parent, St-Laurent, & Saintonge, 1998; Moss & St-Laurent, 2001; Moss, St-Laurent, & Parent, 1999) at both five to seven and seven to nine years of age. Furthermore, several studies have found that controlling attachment is related to unresolved loss or trauma of the mother on the AAI (Behrens, Hesse, & Main, 2007; George & Solomon, 1996; Greenberg, Speltz, DeKleyn, & Endriga, 1991). Also, children with Controlling classifications tended to describe themselves as helpless and their carers as frightened more frequently (Solomon, George, & De Jong, 1995) during doll play stories relating to attachment. Assessment of peer relations indicated lower quality of play and conflict resolution (Wartner, Grossmann, Fremmer-Bombik, & Suess, 1994).

Moss and colleagues (2005) conducted an eight year longitudinal study using a large normal sample (n = 240) that allowed the possibility to break down the Disorganized group into subtypes, finding that 68% of Disorganized children (10% of total sample) displayed controlling attachment behavior during the early school age. These findings are consistent with those of other studies using middle SES low risk samples (Main & Cassidy, 1988; Moss & St-Laurent, 2001). However, 32% were classified as behaviorally Disorganized among the Disorganized group, indicating that even in a normal sample, early school age children display behavioral Disorganization (Moss, St-Laurent, Dubois-Comtois, & Cyr, 2005).

Punitive children received higher ratings on externalizing behavior problems, whereas Controlling-caregiving scored higher on internalizing (Moss et al., 2005).

Analogously, the doll-play of Controlling-punitive children mainly consisted of chaotic and destructive themes, whereas for the Controlling-cargegiving children it consisted of highly inhibited and frightened behavior (Solomon & George, 1999).

The emerging findings in the area of Disorganized and controlling attachment behaviors indicate that further research is necessary, "to clarify the precursors and further trace the trajectories" of these children into middle childhood (Moss et al., 2005). Although some studies have been conducted, further research is "needed to track the developmental pathways associated with controlling/disorganized forms of attachment beyond the early school years. Almost nothing is known about the forms these behaviors take across the transition from middle childhood to adolescence and from adolescence to adulthood" (Lyons-Ruth & Jacobvitz, 2008, p. 685).

2.5.3. Middle childhood.

Although there was an explosion of research regarding attachment in infancy and adulthood attachment during the 1990s, middle childhood was generally neglected and thus research was quite limited. Although still limited in many ways, during the last decade more efforts have been made to investigate attachment during this stage of the life span (Kerns, 2008).

Studies have indicated that Disorganized attachment affects the cognitive, social, and emotional functions and/or abilities of children. These include decreased performance in mathematics (Moss et al., 1998), lower performance in formal operational tasks and the ability to self regulate (Jacobsen, Edelstein, & Hoffmann, 1994), lower self-esteem (Moss et al., 1998; Cassidy, 1988; Jacobsen et al., 1994), internalizing problems (Carlson, 1998; Moss, Bureau, Cyr, Mongeau, & St-Laurent, 2004; Moss, Cyr, & Dubois-Comtois, 2004), decreased social skills, peer rejection, and lower self-esteem (Verschueren & Marcoen, 1999), reports of dissociation, and generally poor emotional health (Carlson, 1998; National Institute of Child Health and Human Development (NICHD) Early Child Care Research Network, 2006).

A review conducted by Lyons-Ruth (1996) of previous studies on aggression with middle class samples show that Disorganized/controlling attachment had a strong relationship with aggressive behavior, with further support for externalizing problem behavior, offered by a meta-analysis of 12 studies (n = 734) conducted by Van IJzendoorn (1999), reporting an effect size of r = .29. A meta-analysis of 34

studies (N = 3,778) conducted by Fearon and colleagues (2010), found a significant effect size (d = 0.34) for the relationship between attachment Disorganization and externalizing behavior problems.

In terms of peer behavior they are characterized as fluctuating between being socially withdrawn and exhibiting high aggressiveness. The researchers interpret these findings as indicating that these children believe they cannot handle the challenge of engaging successfully with their peer group, hence the latter is perceived as a threat, initiating fight or flight behavior in Disorganized children (Jacobvitz & Hazen, 1999). Moss and colleagues (2005) take this a step further and suggest that the bizarre and aggressive behavior exhibited by Disorganized children is very likely to lead to alienation from their peers.

Peer rejection of behaviorally Disorganized children has a negative relationship with the cooperative levels of these children in the classroom (Ladd, 1997), and elevated attention problems and lowered academic achievement (Ladd & Burgess, 2001). Further, these children with experiences of neglect and abuse with their primary caregiver tend to engage with teachers in a manner that mimics their previous anomalous relationship experience (Lynch & Cicchetti, 1992). These findings indicate that Disorganized attachment seems to create a vicious cycle, affecting multiple areas for these children, that only seem to escalate and flow through into more and more areas of their lives. Perhaps this evidences the development of "mental representations of people and relationships which perpetuate negative interactional cycles between themselves and their major caregivers, these offer limited model for prosocial and emotional attuned-relationship experiences" (Stiefel, 1997, p. 59).

Although studies have repeatedly supported the association between Disorganization and psychopathology, Hennighausen and Lyons-Ruth (2005b) warn that, it is probable that Disorganized and Controlling behaviors of attachments and behaviors regarded as representing psychiatric disorders " constitute adaptations to particular family and social circumstances (p. 294).

2.5.4. Adolescence.

As explained by Lyons-Ruth and Jacobvitz (2008), adolescence tends to be a problematic area of attachment research. Their review of pertinent studies indicated that the primary instrument used in research with this age group has been the AAI,

which tends to rely on the participants narrative, rather than on direct observations of the parent-child relations, as is done during infancy and childhood. Furthermore, studying the continuity of attachment to this age group has not been possible, as most research in this area commences when participants are in adolescence. A review by the authors of the limited available longitudinal studies indicated that these studies have assessed attachment in late adolescence using the AAI, and used low risk samples with low frequency of Disorganized classifications. Longitudinal studies assessing continuity found that Disorganized infants were more likely to receive Insecure rather than Autonomous classifications on the AAI in late adolescence, but information seemed to be lacking concerning the continuity of Disorganization to Unresolved classification. Additional studies with both low and high risk samples found that infants classified as Disorganized were more likely to be assigned Unresolved state of mind on the AAI in adolescence and young adulthood. Also continuity has been shown between Disorganized/controlling behavior of six year olds and Insecure classification of 19 year olds. An additional problem is that with the AAI, Disorganized attachment for adolescents and adults is based on incoherence of discourse in response to questions about experience of loss or abuse. An important issue that arises is how to "conceptualize the etiological mechanisms that contribute to the maintenance of Disorganized attachment strategies [and sequelae] in adolescence and adulthood in the absence of specific incidents of loss or trauma" (Hennighausen & Lyons-Ruth, 2005b, pp. 290).

Liotti (1992) has theorized that infant Disorganized attachment increases the risk of children developing altered states or dissociative disorder later in life. Several studies have supported this hypothesis. Carlson (1998) conducted a prospective longitudinal study following the sample from birth to adolescence, with 35% of infants classified as Disorganized/disoriented at 12 months of age and 43% at 18 months of age. Disorganization in infancy was associated with higher teacher reports of dissociative symptoms during primary school age, adolescence and adulthood. In addition, Disorganization in infancy was predictive of increased self reported symptoms of dissociation at 19 years of age. A study following a sample from birth to adolescence found that the strongest predictors of dissociative symptoms for 19 year olds was their Disorganized classification during infancy along with the emotional unavailability of the mother (Ogawa, Sroufe, Weinfield, Carlson, & Egeland, 1997). The findings of Main and Morgan (1996) further supported Liotti's

theorizing, noting that the maternal dissociative score was a good predictor of Disorganizing behavior in infants.

West and colleagues (2001) reported that psychiatrically hospitalized adolescents with AAI classification of Unresolved or Cannot classify scored higher on dissociation. Similarly, Riggs and colleagues (2007) found that a comparison between two groups, one with unresolved trauma and another without unresolved trauma, indicated that the former had increased dissociative symptoms. A recent study by Goodman, Stroh and Valdez (2012) with 36 preadolescent psychiatric inpatients found 28% classified as Disorganized and a significant positive relationship between Disorganized attachment and depression. This finding confirmed that children without a strategy to cope with anxiety caused by a frightened or frightening parent will develop "feelings of helplessness and hopelessness in response to the lack of safety in these children's internal and external world" (Goodman, Stroh, & Valdez, 2012, p. 279).

2.5.5. Adulthood.

Research in adulthood examining the association between Disorganized/unresolved state of mind regarding attachment and psychopathology has found that "unresolved state of mind is the most overrepresented state of mind among people with psychiatric disorders" (Dozier, Stovall-McClough, & Albus, 2008, p. 738). A study on a large sample of depressed inpatients reported 72% of participants as being Unresolved (Fonagy et al., 1996). Tyrell and colleagues (1999) reported that 57% of participants (4 out of 7) with bipolar disorder where classified as Unresolved.

Fonagy and colleagues (1996) found that the adults diagnosed with anxiety disorders when compared with other clinical groups, were disproportionately Unresolved. Similarly a study conducted with women diagnosed with anxiety disorder found that a remarkable 78% were categorized as Unresolved (Manassis, Bradley, Goldberg, Hood, & Swinson, 1994). On the other hand, Zeijlmans van Emmichoven and colleagues (2003), reported only 11% as Unresolved among adults with anxiety disorders.

According to DSM-V (American Psychiatric Association, 2013), Post Traumatic Stress Disorder (PTSD) is considered an anxiety disorder. A very interesting study examining the connections between adult state of mind regarding

attachment and PTSD was conducted by Stoval-McClough and Cliotre (2006) consisting of a sample of 30 females without a diagnosis related with trauma, 60 with a history of abuse during childhood and 30 diagnosed with PTSD due to abuse during childhood. The researchers reported 67% of females diagnosed with PTSD, as having Unresolved attachment classification, as opposed to only 27% in those without a PTSD diagnosis.

In a sample consisting of antisocial and paranoid personality disorders, most participants were found to be assigned Unresolved attachment classification (Fonagy et al., 1996). Research on patients with borderline personality disorder found that 75% to 89% were assigned an Unresolved attachment classification (Fonagy et al., 1996; Patrick, Hobson, Castle, Howard, & Maughan, 1994). In a study conducted by Barone (2003) comparing attachment classification between a control group of normal individuals and a clinical group of borderline personality patients, found that 50% of the clinical groups was classified as Unresolved, as opposed to only 7% of the control group was categorized as so.

2.6. The Developmental Maturational Model of Attachment (DMM)

A different approach is offered by the DMM developed by Crittenden, wherein attachment is defined as "*self-protective strategies* that (1) are learned in the context of attachment relationships; (2) reflect individual differences in how information regarding safety and danger is processed and enacted behaviourally; and (3) result from an ongoing interaction of maturation with circumstance" (Crittenden, Kozlowska, & Landini, 2010, p. 186). This model takes a different approach to the one described thus far and "interprets adaptation, especially in childhood, in terms of fit of strategy to context, and emphasizes the importance of adapting as opposed to focusing exclusively on security" (Crittenden, 2006, p. 105). According to the DMM, instead of placing emphasis on security as leading to organization, it suggests "that danger creates the need and occasion for humans' capacity to organize" (Crittenden, 1999, p. 145). Therefore, attachment patterns are viewed "as strategies for predicting and protecting oneself from danger," all of which are considered adaptive in the relevant context that they are acquired (Crittenden, 2000, p. 9).

Consequently, concerning Disorganized attachment, the DMM suggests that:

> the mind *organizes* in response to threat...[and] that attachment evolved *because* children are faced with threat and need to elicit protection from inattentive and threatening patterns. Consequently, endangered children are expected to organize their attachment behavior in ways that are *more* carefully and complexly attuned to their context than those of children in safer circumstances. (Crittenden et al., 2010, p. 187)

Crittenden (1992b) suggests that as children mature cognitively, socially, emotionally and linguistically, their capacity to assimilate additional information from their environment increases. Therefore, internal working models of representation are perceived as dynamic and constantly experiencing "reorganization." Although this creates "new possibilities for perception, integration, and response," when they are significant and sudden, both responses and internal working models may be disrupted. Therefore what may be perceived as Disorganized, can instead be perceived "periods of rapid developmental change" (Crittenden, 1992b, p. 224).

Further, Crittenden suggested examining the internal working models of children to assess if perhaps they are organized and actually the responses of these children to achieve the expected outcome, thereby indicating that there is a strategy and therefore an underlying organization to their otherwise interpreted Disorganized behavior.

According to the DMM, some markers of Disorganization actually fit into subcategories of the three major classifications, with some falling into the alternate defended/coercive (A/C) category, where they show a mixture of attachment strategies. A large number of the Disorganized behaviors may serve the purpose of 'buying' time for the infant, to decide how best to respond in complex situations, e.g. a parent who oscillates between indifference and hostility toward the infant, hence Disorganized behaviors may be seen as functional, rather than dysfunctional. Disorganized behavior may offer the opportunity for the child "to change behavior patterns (but *not strategy*) when changes in the situation make the original patterns less functional" (Crittenden, 1992b, p. 225).

Therefore, these behaviors do not seem to necessarily to point to Disorganized internal working models. Instead the child, is tapping into this model, to assess available input before responding. "In cases in which children have reason to fear the consequences of a misstep, this analysis may be both well worth the effort

and also evidence of the extent of children's organization" (Crittenden, 1992b, p. 226).

2.7. Conclusion

Concluding, it should be stated that Disorganized attachment remains a complex and perplexing issue for analysis. On the one hand, the presence of Disorganization in infancy and early childhood can lead to predictions about developments in later stages of life. On the other hand, observations of Disorganized classifications in adulthood do not conclusively tell the story of earlier years. The studies that have assessed Disorganized attachment have yielded mixed results which should be treated with caution. The main reason for these findings seems to be the perplexing nature of Disorganized attachment classification. It is possible that the measures used in those studies could not provide a breakdown of Disorganized classification robust enough to capture all the effects of this attachment category. In an attempt to improve this shortcoming, the present thesis has utilized Q-methodology, analyzed in the next chapter, as the foundation for developing a new coding and classification instrument for measuring attachment, which will be presented in subsequent chapters.

Chapter 3: An Exploration of Q: Inception, Application, Controversies and Evolution

Q-methodology was conceived of as a qualitative research method utilized in psychology and other social sciences to measure the *subjectivity (viewpoint)* of individuals on a particular subject or question; the information about the viewpoint of individuals is then in fact captured and analyzed using a quantitative approach; hence the methodology sits in a unique place between qualitative and quantitative research traditions. This method was developed in 1935 by William Stephenson, a British physicist and psychologist. From its inception, Q was not accepted by British academic psychology and received "stinging" criticism. Consequently, development and application of Q, primarily took place in the United States within the disciplines of communication, political science and health sciences. It was not until recently that this method was embraced by psychology (Brown, 1997).

3.1. The Working of Q-Methodology

Stephenson did not view quantitative and qualitative methods as mutually exclusive. Essentially he was seeking to develop a method that could foster a 'partnership' between the two and as a result facilitate the evolution of psychology (Stephenson, 1953). Although Q is primarily classified as a qualitative research method, is may be more aptly viewed as a method combining the strengths of quantitative and qualitative research (Dennis & Goldberg, 1996). An interesting classification is that of Stenner and Stainton Rogers (2004), who refer to Q-methodology as "qualiquantological," meaning that it "maximizes the use of statistics in a qualitative way" (Parker & Alford, 2010, p. 169). This is achieved because Q combines the in-depth analysis permitted by quantitative analysis with the mathematical techniques of factor analysis (Baker, Thompson, & Mannion, 2006).

Furthermore, Q provides a means to explore, observe and analyze people's view on a particular subject which can then lead the way for more informed, well designed quantitative research on a particular topic. The two, qualitative and quantitative research methods, can be viewed as complementary instead of mutually exclusive and rivalrous. Q-methodology receives ever greater support since it

provides a more interdisciplinary approach to research both within and across disciplines.

Aside from exploratory purposes, such as obtaining information about people's views, attitudes and beliefs on a particular topic, the Q-technique can also be used for assessment purposes as indicated in the monograph about the California Q-Set (CQ; developed for the assessment of personality assessment) by Block (1961). However, it is interesting to note that this goal can be accomplished in two ways. First, when used by a psychologist the CQ serves as an instrument to provide an overall personality assessment of an individual. However, an intriguing alternative to using the CQ to provide an "external" (objective) perspective of a professional, is to use it as a means to provide an "internal" (subjective) perspective, by allowing the individual being assessed to perform a Q-sort, assessing his/her personality from his/her own perspective and incorporating this into the assessment portfolio (Block, 1961; Miller, Prior, & Springer, 1987; Smith, 2001; Stephenson, 1953).

3.2. Q-Study

In brief, a Q study involves four steps: (1) selecting the set of Q-items (Q-set or Q-sample), (2) selecting the sample of participants (P-set), (3) participants ranking the items (Q-sorting process) and being briefly interviewed, and (4) the data is factor analyzed and the resulting factors are interpreted providing information about the perspectives of participants on a particular topic (van Exel & de Graaf, 2005; Baker et al., 2006).

3.2.1. The Q-set.

To begin a Q study, researchers select the topic (or question) and then compile relevant items, usually in the form of statements. These items can be extracted from a plethora of sources such as books, articles, magazines, interviews, and focus group discussions. Usually the relevant sources are dependent upon the purpose and topic of the study (Brown, 1993; van Exel & de Graaf, 2005; Watts & Stenner, 2005). The population of ideas from which the Q-set is derived is called the concourse (Rogers, 1991a) and the resulting set of items is called the *Q-set of items* or *Q-sample* (Baker et al., 2006).

The method of selection can be either unstructured or structured. An unstructured selection means that items are chosen based on representation of the

topic and relevance to the study. In a structured selection, items are selected to represent theoretical categories (Baker et al., 2006, p. 40). Once these categories are identified, a large number of items can be sorted into their corresponding category. These items are then condensed by selecting a given number of statements for each category; it is best to keep the number of items in each category equal and to select items in each category that are different from each other (Webler, Danielson, & Tuler, 2009).

The total number of items varies between studies, but it usually lies within the range of 20 to 100 items. A satisfactory Q-set, covering a particular topic adequately, consists of 40 to 80 items. With fewer than 40 items coverage is inadequate and with more than 80, the Q-sorting task may become daunting for participants (Watts & Stenner, 2005). The qualities of a good Q set are: (a) items should be short, stand-alone statements that are easily read and comprehended; and (b) each item is meant to be interpreted in the context of all other items (Webler et al., 2009). The latter is necessary because ranking which is the process used in Q-method requires a holistic or gestalt approach where all the items are interdependent. The end result is a set of heterogeneous items (Q-set) woven into a homogenous viewpoint by the participant (Stainton Rogers, 1995; Watts & Stenner, 2005).

As indicated by the process explained above, constructing the Q-set is a time consuming process, however the time invested in this stage of the Q-study allows for the emergence of a good quality set of items that will provide participants with the appropriate tools to tell their story (Stainton Rogers, 1995).

3.2.2. P-set.

The Q-set is then presented to participants taking part in the study, referred to as the P-set (van Exel & de Graaf, 2005) or Q participants (Webler et al., 2009). P-sets vary between studies; some researchers conduct intensive studies where a small number of participants are asked to complete several Q-sorts, whereas extensive studies, use larger P-sets, asking participants to complete one Q-sort, obtaining a wide range of viewpoints (Baker et al., 2006). A general guideline according to Brown (1980) is using a P-set of 40 to 60 individuals.

However, according to Watts and Stenner (2005), a large P-set is not necessary for a Q study. Even the ideal P-set of 40 to 60 mentioned by Brown is only a rule of thumb because effective studies can be completed with even fewer

participants. Using a large number of participants may compromise a Q study because this could "easily negate many of the subtle nuances, complexities and hence many of the essential qualities contained in the data" (Watts & Stenner, 2005, p. 79).

Also, supporting the view of using smaller P-sets, Webler and colleagues (2009), indicate that many Q-studies include between 12 to 20 individuals. They suggest striking a balance between two rules of thumb. First, a certain amount of redundant participants is necessary, therefore since a Q-study usually results in two to five factors, having four to six individuals representing each factor is sufficient. This criterion would result in eight (two categories times four individuals defining each) to 30 participants (five categories times six individuals defining each). Since it is not possible to predict how many individuals will determine each factor, including some extra participants is necessary. Second, fewer participants than Q-items should be involved in a study. Usually a ratio of 3:1 is applied. Therefore with a study of 60 items, 20 participants are needed (Webler et al., 2009).

3.2.3. Q-sorting

Participants are given the Q-set and a *condition of instruction* (instructions to the participants about how to sort items), which they need to follow while ranking the item cards (Webler et al., 2009). This activity is referred to as *Q-sorting.* For example participants may be asked to, 'Sort the items of the Q-set according to how characteristic (+3) or uncharacteristic (-3) each item is in relation to your personality.'

To begin, the participant is given the Q-set and instructed to read through it, so as to have an overview of the items and allow the mind "to settle into the situation" (Brown, 1993, p. 102). The Q-set is provided as separate cards or is given to the participants on sheets of paper to cut up themselves. The person is then instructed to sort items into three broad piles using the following categories (using the example above) of characteristic, neutral and uncharacteristic (or agree, neutral and disagree) (Brown, 1993).

These three piles are then used to complete the Q-sort grid (forced distribution). This grid indicates a scale for example from -3 to +3 and a fixed number of items that can be placed in each pile. Using the example stated previously, the 4 items that are most characteristic are placed in the +3 pile and the 4 items that are most uncharacteristic are placed in the -3 pile. Sorting is then continued in this

manner until all of the positions in the grid have been filled according to the number of items permitted in each pile (Baker et al., 2006). Since this procedure is 'fixed' it is referred to as a forced distribution (Watts & Stenner, 2005). "At all stages it is made clear that items may be moved about and exchanged in position until a final best expression is obtained" (Stainton Rogers, 1995, p. 182).

3.3. Data Analysis

To enter the data from the grid to a factor analysis program, the responses of the participant are coded in the following manner: -3 items are scored 1, -2 items are scored 2, up to +3 items scored 7 (Rogers, 1991a). Briefly explained, data analysis involves conducting a correlation matrix to represent the agreement between the Q-sorts of each individual.

Data analysis then continues with a by person factor analysis, where instead of the items, the participants become the variables. Thus, analysis focuses on the patterns that emerge from the Q-sorts of individuals. The researchers then usually select and rotate the factors with an Eigenvalue greater than 1. These factors are rotated using varimax or judgmental rotation. Factor loading , the "extent to which each Q-sort is associated with each factor" (Brown, 1993, p. 111), arrays and scores along with the qualitative data from the interviews are then used to interpret the data. In the end, the factors represent the different viewpoints around a particular topic, individuals with similar viewpoints will define the same factor. A description is often given to each factor and is represented along with its loadings and scores (Baker et al., 2006; Brown, 1993; Rogers, 1991a).

With Q-sort, a hypothesis is not being tested. Instead this approach is exploratory in nature, there are not any a priori assumptions in place about the outcome of the study (Stainton Rogers, Stenner, Glessen, & Stainton Rogers, 1995). Therefore, the actual outcome of a Q study is a "series of factor interpretations. These summarize the account or viewpoint expressed, woven out of the item placements and written or spoken comments" (Rogers, 1991a, p. 131).

3.4. Strengths of Q

Multiple strengths of Q-sort methodology have been identified.

First, Q-sort can be categorized as a type of discourse analysis. Many methods fall under this category, whose main objective is to analyze written material to find underlying patters or meanings. An advantage that Q-methodology has over other types of discourse analysis is that it permits direct comparison of participant responses in a consistent fashion because all participants Q-sort the same set of items (Webler et al., 2009).

Second, in comparison to questionnaires, Q-method provides the opportunity to create a more focused instrument than questionnaires that often take a more broad approach.

Third, although the items included in the Q-set are usually selected to represent particular theory, this supposed a prior meaning is not transmitted to the rater. The rater imposes his/her own interpretation and assessment of each item (Brown, 1997). Further, a priori assumptions cannot be imposed by the rater (Baker et al., 2006) because the individual is not aware of the theory forming the substructure of the items or the aim of the researcher when creating the Q-set.

Fourth, Q reduces researcher bias permitting instead the viewpoint of participants to emerge (Baker et al., 2006, p. 39). It should be noted that the factors emerging from data analysis cannot be predicted by the researcher (Peritore, 1989) and "due to the immense number of possible permutations contained in a Q-sort, the researcher is able to exert little influence over the factors that emerge. For example, a simple 10-item Q set contains 1,209,600 (10 factorial) potentially unique sorts" (Baker et al., 2006, p. 40).

Fifth, with self-report measures, social desirability bias may affect the respondent, meaning that they may alter their responses so that the outcome makes them appear favorable to the researchers (Cross, 2005). With a Q-sort this is not possible because the participant is not aware of the underlying structure of the Q-set and what each item may represent.

Sixth, Q can incorporate features of a particular group such as language and cultural specific information that can make the particular set of items relevant and adaptable to the needs of any group and situation thereby assisting and perhaps improving the quality of data collected (Baker et al., 2006).

Seventh, the same Q-sort can be used in different settings, multiple times without need for long retest intervals (Prasad, 2001) and can also be administered

over the internet (Thomas & Watson, 2002) with recent data indicating no difference in reliability and validity (Reber, Kaufman, & Cropp, 2000).

3.5. Weaknesses of Q

Critiques of Q have indicated certain weaknesses of this research method.

First, a criticism of this method is the actual procedure of a Q-study, namely the item set, which can only include a finite number of statements and whose selection is at the discretion of the researcher. Therefore, one could argue that this method is restrictive and that can only get back what one puts in (Watts & Stenner, 2005, p. 78). However, as Watts and Stenner (2005) argue, the statements that are put into the item set, cannot predict nor limit the diversity of responses that may ensue. For clarity purposes, if one relates this issue to another type of instrument, an interview, the same questions that make up a structured interview cannot automatically elicit the same response for participants. Further, with a Q-study it is the overall configuration of items that matters to the researcher (Cross, 2005; Rogers, 1991a; Watts & Stenner, 2005).

Second, some supported that repeated Q-sorting by the same individual does not yield the same results, thus the reliability of this method comes into question (Cross, 2005). However, Brown (1980) argued that a Q-sort can be replicated with a consistency of 85% up to a year later.

Third, some noted that the forced distribution of the Q-sort process forces and/or limits respondent choices, however, the other side to this argument is that this restriction encourages the respondent to consider each item more carefully before ranking it, possibly providing a more "true" response (Prasad, 2001) and also that this normal distribution of data allows parametric statistical analysis for intergroup comparison (Cross, 2005).

Fourth, bias may be introduced by the participant where they may give false and/or uncertain responses or responses intended to please the researcher. Although uncertain responses are limited to some degree by the forced distribution of items, false and responses intended to please still remain an issue (Cross, 2005). Lastly, a Q-study is time consuming in terms of constructing the Q set for the researcher and in terms of participants completing the Q-sorting process (Rogers, 1991a).

3.6. Controversial Issues Concerning Q

3.6.1. Convention.

According to Rogers (1991b), Q-methodology as conventionally perceived and formulated by its originator, "does not set out to 'measure' anything objectively. It is intended to offer participants in a study the opportunity to express their viewpoints or beliefs or 'versions of reality' by the way in which they sort a number of items" (p. 127). Also, McKeown and Thomas (1988) interestingly seek to differentiate Q-Methodology from Q-sorting technique, by stating, that often and incompletely referred to as "'Q-sorting technique,' Q-methodology encompasses a distinctive set of psychometric and operational principles that, when conjoined with specialized statistical applications of correlational and factor-analytical technique, provides researchers a systematic and rigorously quantitative means for examining human subjectivity" (p. 7). Further, they explain that in Q-methodology, "no definition is assumed beforehand but is inferred from the location of statements provided by the respondent as he or she distributes them along the Q-sort continuum" (p. 22). If a concept is defined a priori, this resembled R-methodology and introduces the "arbitrary subjectivity" (p. 22) of the researcher into the measurement process, whereas the purpose of Q is to operationalize participant subjectivity on a topic, thereby allowing the differential meanings of participants to emerge (McKeown & Thomas, 1988).

The literature seems to repeatedly make the differentiation between Q-sort technique and Q-methodology. For example, Stainton Rogers (1995) emphasizes that Q-sorting is merely one of the stages of the Q-methodology, the data collection stage, as developed by Stephenson and is not considered "the critical feature of a Q methodological study" (p. 185). However, other researchers, have not taken this view and have instead used elements of Q-methodology to develop instruments for assessment and according to Stainton Rogers (1995) because of this, the perception of "Q sorts as some kind of 'test' persists to this day" (p. 186). This is perceived as anathema by Q-methodologists and a second important differentiation that Q-methodologists seek to make between these "tests" and Q-methodology is that the former is actually R-methodology and not Q because a Q-set is given to participants to describe a specific psychological construct and not as a means to enable the holistic, subjective perspective of the participant to emerge, often times in surprising

ways that were not conceived of a prior by the researcher, which is the essence of Q-methodology (Stainton Rogers, 1995).

Although this differentiation is understandable and helpful in clearing some of the confusion that exists concerning Q-technique and Q-methodology, it seems surprising that some authors strongly criticize these "tests," considering them a corruption of Q-methodology as conceived by Stephenson. Both applications have merits and limitations. However, although debates among theorists and researchers often pave the way for innovative findings, it seems futile to engage in endless critiques. Rather it would seem more sensible to accept that Q-technique, as applied to developing instruments is more aligned with R-methodology and Q-methodology when applying holistically is a different type of methodology all together. Referring to the former as a corruption of the original methodology as perceived by its originator, seems analogous to considering the work that developed and evolved after the original work of great thinkers, such as Freud and Bowlby to be a distortion as well. As divergences seem inevitable in any field, it seems that the work of these great thinkers should be best considered as providing a secure base from which to explore rather than as a doctrine that should be stringently adhered to with the possibility of limiting future development.

Concluding, an important point raised by Dziopa and Ahern (2011) is that although there are disagreements about using Q, "experimentation and evolution are inevitable," (p. 42) however it is important that researchers are clear about their methodology otherwise their findings and interpretation may be doubted. Further, researchers combining Q-technique and other quantitative methods, but not substantiating the reason for doing so, "seem to compromise the strengths of both methodologies" (Dziopa & Ahern, 2011, p. 51). After reviewing multiple studies, Dziopa and Ahern (2011) concluded that Q-techniques can be applied as part of Q-methodology, but also as a separate approach, with two distinct types of Q-researchers existing, those applying Q methodology to their research and those combining Q-techniques with quantitative assessment methods. However, if using Q to measure a particular construct the process being used is R methodology. Q-methodology is applied when a Q-sort is used as modus operandi to provide participants with the opportunity to holistically express their perspective (Stainton Rogers, 1995).

3.6.2. Divergence.

The Q-technique, as applied by instruments such as the CQ Procedure (Block, 2008), the Attachment Q-Sort (AQS; Waters & Deane, 1985) and the Shedler-Westen Assessment Procedure (SWAP; Westen & Shedler, 2007), diverges from Stephenson initial goal. The point of interest is no longer the sorter, instead it is the evaluation of an individual or relationship, as assessed via Q-sorting by a third person (the sorter). The technique is maintained, the differentiation is in the aim of the Q-sort and data analysis. Stephenson's purpose was to explore subjectivity, whereas the purpose of these instruments was measurement of a psychological construct.

Smith (2001) described Block's CQ procedure as a "major modification of Stephenson's Q methodology" considered by Block and his followers as "a refinement and improvement" of Stephenson's work. Also, Smith pointed out that many more studies have employed the CQ procedure than Stephenson's Q methodology, and therefore "Q is much more widely known in the Block version" (p. 329).

The CQ procedure (Block, 1961) involved the development of a common language to be used by the Q-sorters to evaluate other individuals. Predefining and standardizing the meaning to items a priori, in order to develop scales and their corresponding items is necessary. However, this is not ordinarily done by researchers applying traditional Q-methodology, therefore, traditional Q-methodologists, perceived this not as Q-methodology but as an ipsative instrument utilizing methods of R-methodology (Cattell, 1944 as cited in Watts & Stenner, 2012). Also referred to as "'the Q method of assessment'" (Watts & Stenner, 2012, "Q sets, questionnaires and ipsative measurement," para. 3). The remainder of this chapter often brings focus back to Block's approach, as this was broadly the same method applied to the development of the Child Attachment Q-sort (CAQ). The remainder of this chapter will explain the various issues that exist in this area in general, (e.g., fixed distribution and number of items), but will veer away from extensively citing all of the various criticisms launched towards Stephenson's Q-methodology and Block's approach. Although this may constitute an interesting endeavor it is beyond the scope of this thesis, since the intention of the author was to develop a scaling instrument and not to prove or disprove one approach as being superior to the other. The current

study takes the view that Block's approach is simply an evolution of Stephenson's original work, and that both have made important contributions by expanding the methodological toolkit available to researchers in a plethora of disciplines.

3.6.3. Q-set.

The Q-set, the set of items given to each observer to complete the Q-sort, is considered a very important component of the Q-technique and of course Q-methodology, as a participant can only tell their story if given suitable means to do so (Cross, 2005). Adding to this, Block asserts that, "if a common language is to be substituted for individual freedom of expression, then assurances are required that the vocabulary and the grammar of the imposed language are sufficient for its intended purpose" (2008, p. 39).

3.6.3.1. Size of Q-set.

Among Q literature, there seems to be variation in the optimal size of the Q-set recommended by various authors causing confusion to researchers when using this technique (Dziopa & Ahern, 2011). To start from the originator, Stephenson explained that a Q-set usually consists of 70 to 150 items (1953), with a sample of 80 items being best (1953). Kerlinger (1973, as cited in Dziopa & Ahern, 2011) recommended using between 60 and 140 items to achieve reliability and stability. According to Brown (1980) the aim should be to create a Q-set between 40 to 50 items, this same range is also mentioned by van Exel and de Graaf (2005). Webler and colleagues (2009) describe the Q-set as typically ranging from 20 to 60 items. To add to the confusion, some authors describe the Q-sample as consisting between 10 to 100 statements (Cross, 2005; Stainton Rogers, 1995) and others as consisting between 20 to 100 statements (Barbarosa, Willoughby, Rosenberg, & Mrtek, 1998). Most recently, Watts and Stenner (2012) describe the "house standard" to be between 40 to 80 items. This conflicting information leaves the researcher without any definitive guidelines for creating their Q-set. This can be quite perplexing and bewildering for a novice seeking clear cut instructions.

An optimal solution to this predicament seems to be that since there is limited evidence justifying the assertions about the ideal size of a Q-set, these guidelines should be considered rules of thumb. The particulars of each study or instrument should dictate the ideal Q set (Watts & Stenner, 2012). Although suggestions about the ideal Q set vary, opinions seem to converge that regardless of the size of the final

set, the best thing to do is to generate a large number of items, and proceed with refinements and reduction via piloting the statements (Stainton Rogers, 1995; Watts & Stenner, 2005; Watts & Stenner, 2012) , making sure the topic at hand is adequately covered and aiming to achieve "(1) balance...; (2) appropriateness and applicability to the issue; (3) intelligibility and simplicity; and (4) comprehensiveness" (Stainton Rogers, 1995, p. 185).

3.6.3.2. Development of the Q-set.

As explained by Block (2008) Q-sort literature provided limited guidance about how to construct the Q-sample. Some information was provided by Stephenson (1953), who emphasized the importance of creating items that were understandable, concise, clear and representative, with minimal guidance beyond this point. Furthermore, in opposition to the procedure followed by Block, of creating a standardized Q-set to be used repeatedly, except if empirical studies indicated that certain items were problematic and needed to be revised or removed, Stephenson (1953) advised against, regarding a Q sample "as a standardized set or *test* of statements" (p. 77). He equated this to using the same set of children, as a "standard sample" to conduct empirical research on the same topic, whereas it is evident that different researchers could have their own *different* sample of children to conduct research to examine the same phenomenon.

To fill this gap in Q-sort literature regarding Q-set development, Block (1961; 2008) provided a detailed delineation of seven guiding principles to creating a Q set. Items should: (a) be written in a "theoretically neutral" manner; (b) imply a continuum; (c) describe a single psychological facet and avoid double-barreled statements; (d) include statements that are "conceptually independent;" (e) be considered carefully when examining redundancy, items should be excluded if equivalent, but not if related; (f) keep in mind that "logical or verbal opposites are not necessarily psychological opposites;" and (g) should try to eliminate value judgment (Block, 1961, p. 44). These principles will be elaborated further in the sections explaining the development process for the CAQ items.

3.6.4. Data collection.

3.6.4.1. Forced distribution.

As explained previously, an observer is instructed to sort the items into a forced distribution, in essence the fixed distribution constituting the responses of

participants and raw data of the study. However, the use of a forced distribution remains a point of controversy among researchers. Block (2008) described the fixed distribution of descriptors required of sorters as "a fundamental and absolute requirement," (p. 45) whereby "comparisons and correlations among Q-sorts become straightforward and commensurate. Confounding, inevitably muddling response styles of assessors are prevented from arising" (p. 48). Otherwise, if sorters are left to their own devices the results would most probably be a collection of distributions with varying categories and varying items within each category. Some sorters may tend to rank items at extremes, while others may be more conservative, placing few items at extremes and more towards the middle, leaving the researcher with data that is very difficult to compare and inevitably leading to very low correlations (Block, 2008).

A simple but compelling example offered by Block (2008) is that of two judges who used the CQ-set with a forced distribution, to describe an individual and achieved perfect correlation, indicating that they had identical results. Then they were asked to separate their items in two categories only, characteristic and uncharacteristic. One judge placed 10 items in the characteristic category and 90 in the uncharacteristic, whereas the other did the exact opposite, 90 items were categorized as characteristic and 10 as uncharacteristic. The results indicated that they agreed on 10 uncharacteristic items and on 10 characteristic items, with a correlation of 0.11. Therefore, by allowing this freedom the correlation was very low and the results misleading because it was known from the first Q-sorting with the forced distribution that they ranked descriptors identically. However, when later given freedom with the number of items in each category this information was lost and the data was no longer comparable, but rather it seemed to have created unnecessary confusion.

Therefore, it seems that the forced distribution injects objectiveness into the Q-sorting process because if it is not forced, then personal characteristics or "idiosyncrancies" of each person affect how they will distribute the items (Block, 2008), thereby it becomes more a matter of evaluator subjectivity, as Stephenson (1953) intended, rather than an evaluation of another person, resulting in instruments losing their focus and purpose. Assessing person subjectivity was Stephenson's intended purpose, however the application of Q-technique to person evaluations inherently precludes this feature. It then seems fair to conclude that, as explained

previously, the CQ and other instruments using Q, are an adaptation of the Q-technique and not application of Q-methodology.

A possible solution to deal with this problem is to have sorters completely rank every single item, however this would be an extremely demanding task and would increase the uncertainly of the sorter concerning the position of each item (Block, 2008). Both additional work for Q-sorters and problems with analysis for researchers seems to be solved by applying a fixed distribution. Stephenson (1953) supported that distributions should be fixed:

> The operation is clearly more complex than one, for example, that calls upon the operator to merely make a two-point choice...All the statements have to be compared with one another, however loosely. Fine discriminations are not involved for every item, however, as would be the case if all *N* items were to be ranked: the largest proportion of the items is placed in the middle classes; and although discrimination is most difficult at this point, its importance is reduced by the fact that in product-moment correlation the end-classes gain most weight. Everyone has to follow the same distribution, thus obviating the idiosyncrasies...when there is complete freedom of scores. (pp. 60-61)

Bolland (1985) supported moving away from fixed distributions. An important point he raised is the issue of time constraint. If there is a limit to the amount of time a judge has to complete the Q-sorting, then if there are many categories, a large Q-set and complicated fixed distribution, the validity of results may be compromised. He believed that allowing sorters greater freedom with the distribution and requiring lower categories (between three to seven), would increase reliability and validity of an instrument. However, as he mentioned, "no one has yet developed a completely satisfactory approach to analyzing the data generated by an unforced Q-sort procedure" (p. 96). Nevertheless this point about time constraints should be taken into consideration when developing Q-sorts, the less complicated the Q-sort procedure the higher the rate of responses.

Webler and colleagues (2009) reviewed this issue and explained that most published studies applying Q have used a forced normal distribution, although Brown (2008) supported that the shape of the distribution does not affect the statistical results. Further, they explained that an important point defending the use of a normal distribution is that " it forces participants to contemplate the Q statements in a thoughtful way…If participants are encouraged to assign statements any ranking,

then some will quickly divide the piles into two extremes and claim to be 'finished.'"(Webler et al., 2009, p. 19). Webler and colleagues (2009) explained that in their research they utilized forced distribution, but then asked the participants for feedback regarding their rankings. At the end, the most important issue they wanted to address was that participants have placed items into "ordinal categories" understanding the difference in salience among the various dimensions on the continuum.

Watts and Stenner (2012) supported using a fixed distribution as this had multiple benefits, because although an unfixed distribution appears to provide freedom it actually creates problems. The fixed distribution is not actually as limiting as it seems. With only five items to rank on a five point fixed distribution the possible configurations are 120 (Stainton Rogers, 1995) and with 33 items ranked on a nine point fixed distribution the possible configurations are about 137 trillion (Brown, 1980).

Baker and colleagues (2006) also agree that a fixed distribution is not actually that limiting because sorters are allowed to place items in any position they wish, as opposed to "traditional rating scales where items are scored serially and contextual information excluded. The distribution does not represent an index of pre-defined meaning, as in a scale, but rather the sorter's attributed meaning of the scale" (p. 42). Q-sorting therefore taps into much richer sources of information than conventional rating scales, which by design limit the range and patterns of possible responses.

An additional criticism is that with a fixed distribution, certain information is lost (e.g., Cronbach & Gleser, 1953). "The presumption here has been that something important is being expressed about a person being appraised when the assessor's description results in an unusual shape for the free arrangement of Q descriptors" (Block, 2008,p. 48). Block (2008), referencing a study he conducted in 1956 to examine this issue, found that the "radical differences" in distribution were a function of sorter "idiosyncrasies," and that when forced distributions were utilized, the judges made discriminations that previously did not arise. Prasad (2001) supports the use of a fixed distribution because it forces sorters to consider their views more carefully and express their honest opinion.

To conclude using the words of Watts and Stenner (2012), the "simple truth" is that a forced distribution is selected "because it represents the most convenient and

pragmatic means of facilitating the item ranking process" both for the researchers and the observers. Moreover as the literature supports, this form of responses may seem limiting on the surface, but when the possible permutations are computed the results seem to approach infinity or are at the least unreachable within any particular study.

3.6.4.2. Shape of forced distribution.

The controversy concerning forced distribution, also extends to its shape. Stephenson's (1953) view on this issue was that the distribution should be symmetrical. He suggested using a minimum of 10 categories for a "flattened, playkurtic distribution" and not a normal one that approached a normal distribution. However, he stressed that "it is important that the operation itself should be a reasonable one, such as a person can perform without feeling that it gravely distorts what he wishes to do" (Stephenson, 1953, p. 60). For a Q-set of 92 items, he used a quasi-normal distribution with 13 categories with the following number of items required per category 2,4,6,8,10,12,14,12,10,8,6,4,2.

Block (2008) seems to follow Stephenson's guidelines on this matter by using nine categories and a distribution much flatter than a bell shaped one, but does emphasize that the shape of the fixed distribution "is not an especially pivotal one" (p. 53). Aside from the shape, the researcher must decide on the number of categories, with more categories resulting in more discriminations made concerning the salience of each item. However, if the number of categories is too high, the job of the sorter becomes more difficult, particularly when making decisions concerning the categories in the middle of the range. He concludes that, "a Q distribution therefore should have a fixed but humanly sensible number of discrimination categories" (Block, 2008, p. 53).

For the CQ procedure, after testing, Block decided to fix the number of categories to nine, as this was sufficient for the task at hand and yielded discriminations that were reliable. He mentioned that other researchers have used different number of categories and explained that this matter is not particularly fundamental, whereas standardization was more important (Block, 2008), a view supported by other Q-researchers (e.g.,Watts & Stenner, 2012).

Further support was offered by Brown (1980) explaining that the shape of the distribution will make no difference and by McKeown and Thomas (1988) who

explained that the distribution shape does not affect the results, reliability of the study nor does data analysis suffer as a consequence of this.

3.6.5. Data analysis.

Researchers diverging from Q-methodology and only applying the Q-technique to their research, also seem to diverge in their data analysis. It seemed that they tended to not use Q-factor analysis but instead revert to more conventional statistical analysis used when following the R-methodological approach. Usually a "similarity index" between Q-sort data is required, namely correlations coefficients and in some cases, researchers choose to average Q-sorts across individuals to provide "an objective and more representative expression of observer evaluations; it is psychometrically sound and democratic as well because none of the observers can justify being awarded special interpretative weighting" (Block, 2008, p. 59). Further, "idiosyncrasies of observers, inattentions, and other observer flaws can be expected in the main, to cancel each other and to let through the stubborn truth" (Block, 1961, p. 32) and the averaged Q-sort can then be used as a criterion sort, to see how an individual Q-sort compares to it. However, data analysis is not limited to correlations, similarly to the size of the Q-sample and the shape of the distribution, statistical analysis will be contingent upon the research topic and aims of the investigator.

Recently, more innovative approaches have collected data with instruments developed using the Q-technique (e.g., California Adult Q-set, Shedler Westen Assessment Procedure, described in the following section) but have subjected the data to both conventional factor analysis and inverted factor analysis (McCrae, Terracciano, Costa, & Ozer, 2006) or a combination of inverted factor analysis and other conventional statistical analysis (Westen & Shedler, 1999b).

However, broader possibilities could be explored. For example, David Shemmings (2006) in a study applying Q-methodology to assess attachment relationships between grown up children in adulthood and their aging parents, seemed to adopt a new mixed methods approach. He used Q-methodology to assess the attachment relationship, but also administered the AAI and used it to inform the factors that emerged from the former method. To conclude, data analysis of Q is only as limiting as the investigators allow it to be.

3.7. Q -technique Research Application

3.7.1. CQ procedure.

The California Q-sort (CQ) procedure is a person-centered, ipsative (forced choice), scaling method that considers the attributes of a particular person with respect to each other and not individually. Ipsative means that a set of items is ranked in relation to each other, with a specific criterion and person in mind (Block, 1961), "the sorter explicitly compares each attribute with other attributes within the same individual" (Caspi et al., 1992, p. 513).

As Block (2008) explained, "for subjective impressions of a person to be respected, a basis for calibrating these impressions must be established" (p. 4). The evaluations of patients provided by health professionals or researchers must be comparable and guided by a common language, otherwise if each person is speaking their own language, the resulting evaluations are neither comparable nor is it possible to separate and discuss disagreements or even agreements for that matter. Working towards this purpose in personality assessment, Block (1961) developed the California Q-set, referred to as the California Q-sort procedure (CQ procedure), a method comprising of the revised California Adult Q-set (CAQ ; referred to previously as the California Q-set) and the California Child Q-set (CCQ). As Block (2008) explained the phrase "CQ procedure" is used interchangeably and refers both to the adult and child version. For this reason, the acronym of the revised adult version was not known to the present author when giving the Child Attachment Q-sort the acronym, 'CAQ.' This only became known to the author when Block's book, *Q -sort in character appraisal: Encoding subjective impressions of persons quantitatively* published in 2008 became available. However, the instrument in this thesis had been named since 2006. For any future studies or publications the instrument will be renamed to avoid any issues pertaining to this similarity. To avoid confusion for the reader, the California Adult Q-set will be referred to using its full name and not its acronym for the remainder of this thesis.

Although the actual observations and rankings are technically subjective, "The CQ-procedure...permits the job of comparison to be done objectively...By requiring each judge to attend to the complete range of attributes included in the language, the dangers of differential focusing are avoided" (Block, 1961, p. 22).Therefore, using the Q-sort technique allows for the subjective to become

objective, meaning that in general evaluations provided by any individual, whether a professional or lay person, is subjective, regardless of the methodology used to ascertain this evaluation. However, Q-sort recognizes this subjectivity and in fact invites and even celebrates it, instead of pretending it does not exist or trying to find ways to methodologically and statistically reduce as much of it as possible. However, careful analysis of the discourse, development of the Q-set and pilot studies allow for the researcher to refine and test if their initial subjectivity which is inevitably injected into the Q-set, can stand the test. If participants in pilot studies, interpret the items in the same way, assess the same phenomena and consequently have comparable ratings, then the instrument offers promising results and could be considered as objective in measuring a particular phenomenon.

The initial version of the CQ procedure was the result of seven years of labor (Block, 1961), with the assistance of 50 psychiatrists and psychologists, and since that time the number of people involved had increased to 100 (Block, 2008). The development of the CQ language, the Q-set, is an amalgamation of information drawn from various theoretical perspectives. Moreover, clinical experience is not a prerequisite for using the CQ procedure; although it was designed for individuals working in mental health settings, it has unexpectedly proven useful in various other fields involving assessment of individuals by nonprofessional observers (Block, 2008).

As described previously, the CQ procedure is comprised of the California Adult Q-set and the CCQ, described by Block (2008) as language instruments "designed to permit comprehensive personality descriptors of adults (or preadolescent children)" (p. 119). Each instrument consists of 100 items. The individuals considered suitable to carry out the Q-sorting are professionals, parents, or other individuals who know the person under assessment. The sorter should focus only on the particular individual and not assess the person in comparison to other individuals. In addition, a cautionary note for the CCQ is provided; the instructions explain that interpretation of items should be maintained at the behavioral level by focusing on "observable qualities" and not looking for deeper meaning in children's behavior. Once the Q-sort is completed,

> a psychologically complex picture of a person is conveyed by the *constellation* of Q descriptors. Often it is the larger context in which a descriptor is placed that will influence the interpretive meaning of that

> descriptor. By considering the different attributes surrounding a common item, very different impressions may emerge. A dynamically implicative picture of the person is created by the constellation of items. (Block, 2008, p. 127)

This procedure takes about 20 to 40 minutes to complete. If someone is new at Q-sorting it takes more time to complete, but with experience Block (2008) argued that duration decreases markedly to about 15 to 20 minutes. However given that his instrument contains 100 items this estimation seems over optimistic. Block (2008) encouraged the use of CQ prototypes or criterion CQ-sort. This involves bringing together about 12 individuals who are experts in the theoretical construct for which the researcher wants to create a prototype. Each person, separately creates a Q-sort using CQ items to represent a typical person exemplifying the particular concept. These Q-sorts are then compared. If the concept is well comprehended the correlations among them is expected to be high, as is the case for the California Adult Q-set where reliability was .90. Therefore, these averaged Q-sorts created a composite "Q description better grounded than any of the individual prototypic CQ descriptors from which it was derived" (Block, 2008, p. 80). Comparing an individual Q-sort from the California Adult Q-set or the CCQ with its analogous prototype, involves a simple correlation of the Q-sort to the prototype of the constructs the researchers want to assess. The correlations of these comparisons are considered "scores" and have many uses for analysis conducted in both clinical and research settings.

Zeldow and Bennett (1997) used a group of 10 experts to create a composite Q-sort of an "optimally adjusted 25-and 50-year-old," the mean of their interjudge correlation was .79 for both the composite Q-sort of both ages. The interjudge correlation found was similar to that reported by Block (2008) who stated that repeated studies find correlations among sorters using CQ to be around .75.

A study conducted by Wilson and colleagues (2013) using the CCQ with children between the ages of three and five, yielded acceptable interrater reliability, with r_s greater than or equal to .78. Also CCQ scales showed both concurrent and predictive validity. Oshri and colleagues (2012) found interrater agreement to range between average ICCs of .68 to .85, with a mean of .80. A composite Q-sort created by Hart, Keller, Edelstein, and Hofmann (1998) for each of the 107 seven year old

children including in their longitudinal study, found the mean reliability of the urban sample to be .91 and .68 for the rural sample.

Reise and Oliver (1994) use the California Adult Q-set to develop a prototype for a primary psychopath with a group of seven judges, the reliability of their composite Q-sort was .90. To assess the reliability of the aggregated Q-sort, two peers individually completed sorting for 65 individuals. Psychopathy scores were derived by correlating each Q-sort with the aggregated prototype and the results indicated a correlation of $r = 0.61$, $p \leq .01$ between peer assessments.

Further promising results of prototypes derived from the CQ were provided by Haviland (1998) in a study testing the Alexithymia prototype resulting in significant correlation in expected directions for neuroticism, depression, anxiety, extraversion, openness and emotional expression, assessed using conventional self-report instruments. Robins and colleagues (1996) conducted a study with a sample of 300 adolescent males comprised of about equal percentages of African Americans and Caucasians, and using the CCQ they were able to identify three personality types that were replicable. The validity of these personality types derived using the CCQ was established by assessing behavioral correlates from other independent sources of information and instruments.

A review by Caspi and colleagues (1992) indicated that previous research conducted using the CCQ has used quite a variety of Q-sorters as intended by its developer. Sorters have ranged from clinicians to teachers to parents and subjects themselves, however in all settings the participants were of a certain educational level. To make application of the CCQ possible with lay persons with lower intelligence and educational level, they developed the "Common Language" version of the CCQ, with the intension of expanding is applicability and not replacing the original version. The later version was found to be as reliable as the original and yielded "valuable and valid information" about the relationships between "personality functioning and problems in adaptive functioning" (Caspi et al., 1992, p. 522). Criterion sorts constructed by experts concerning antisocial behavior of adolescent males, yielded reliability of .97 and showed significant correlation with other measures of antisocial behavior. Moreover, self report instruments completed by adolescents males yielded a strong correlation with the Q-sorts completed by teachers ($r = .76$, $p < .001$).

According to some researchers the CQ procedure, although promising, is characterized as "tedious" especially if judges have to complete multiple Q-sorts (Haviland, 1998). Similarly, a study conducted by McCrae, Terracciano, Costa, and Ozer (2006) using a sample of participants between the ages of 17 to 93 found that, completing the Q-sort was "cognitively challening" particularly for older individuals, who in some cases needed two hours to complete the sorting procedure. Although rare, it did occur, where some participants were confused about the direction of the continuum and placed the characteristic and uncharacteristic items in the opposite sides of the continuum. To minimize this occurrence, when a sorting was completed investigators confirmed with the individuals which items were characteristc and which uncharacteristic. However, the investigators still screened their data and if such Q-sort has slipped by their initial check, they were removed from their data set.

Block (1961) also advised that when Q-instruments are used for research purposes, it is by far easier to complete the sorting on a daily basis as observations are made, rather than waiting for the sample to be complete. He described completing many CQ-sorts in the same day (e.g., to describe 10 individuals) as a fatiguing and absorbing task. McKeown and Thomas (1988) also agreed and cautioned that if many Q-sorts (for example, over 20) need to be completed, they should be completed over several days.

3.7.2. Shedler-Westen Assessment Procedure (SWAP-200).

The SWAP-200 is comprised of 200 statements describing personality disorders, sorted using a fixed distribution, into eight categories along a continuum ranging from 0 for "non descriptive" statements and 7 for "highly descriptive" statements. However, it is designed to be used only by individuals with clinical experience and for personality diagnosis, constituting an alternative to the DSM. An online, interactive version of this instrument is available, as assessors seem to prefer this method. Development of this instrument took seven years, was impressively informed and revised accordingly by the feedback of hundreds of clinicians, and the concourse of the Q-sample was drawn from a wide range of sources spanning the last 50 years (Westen & Shedler, 1999a; Westen & Muderrisoglu, 2006; Westen & Shedler, 2007; Shedler & Westen, 2007). To collect information needed to complete the Q-sort, a systematic interview, the Clinical Diagnostic Interview (Westen & Muderrisoglu, 2003; Westen & Muderrisoglu, 2006) was developed which takes 2.5

to administer. Alternatively a minimum of six hours of clinical contact with the patient is recommended by the authors.

The most current version is the SWAP-II (the third edition), which is a reflection of input of an astounding number of about 2,000 clinicians from all major theoretical perspectives (Westen & Shedler, 2007). After the seven years it took to finalize the adult version, the Q-sample was then adapted for an adolescent population. The current version of the Adolescent Q-set (SWAP-II-A) is in its second edition and about 1,000 experienced clinicians were involved in this process (Westen, Shedler, Durrett, Glass, & Martens, 2003).

An important difference of this instrument is that "all items are written to assess unipolar constructs, and the fixed score distribution is therefore asymmetric," (Westen & Shedler, 2007, p. 811). This is quite a radical departure from instruments such as the CQ procedure, utilizing a fixed quasi-normal distribution with bipolar dimensions of uncharacteristic to characteristic, with the middle category reserved for items considered neutral. The authors provided the following rationale for making this choice:

> (a) we are measuring primarily abnormal personality characteristics that by definition are not present in most people, (b) such an asymmetric distribution emerges naturally with most psychopathology measures (i.e., most people do not have a given form of pathology, and progressively fewer have the pathology in more extreme form), and (c) the distribution approximates the distribution generated naturally by most clinicians when they are permitted to rate SWAP items without a fixed distribution. (Westen & Shedler, 2007, p. 811)

Yet another interesting point that guided their Q-set was the principle of avoiding ambiguities created by items that can be used both to positively and negatively characterize an individual. Ranking of items is carried out by ranking degrees of relevance or considered completely irrelevant and put in the zero category, this category is clearly described as, "irrelevant to describing this patient's personality" (Westen & Shedler, 2007, p. 811). The same statistical argument used by Stephenson also applies here, where items in this category receive lower scores and hence have minimal impact on Pearson correlations coefficients that are subsequently computed (Stephenson, 1953; Westen & Shedler, 2007).

The SWAP allows researchers to create "composite personality descriptions of a particular type of patient" (Westen & Shedler, 1999a, p. 262). This is created in a manner similar to that used by Block, with values assigned to each item being averaged across the various Q-sorts corresponding to a particular patient. Alternatively, by pooling the Q-sorts of experts concerning the "*hypothetical, prototypical* patients of a given personality disorder (i.e., hypothetical patients who illustrate the diagnostic category in its purest form)" is referred to as a "diagnostic prototype....a richly detailed description of the personality disorder that reflects the clinical and theoretical understandings of many practicing clinicians" (Westen & Shedler, 1999a, p. 262).

To yield a personality diagnosis, completed Q-sorts are compared to diagnostic prototypes to ascertain their degree of similarity for DSM Axis II personality disorders. The resulting correlation coefficient corresponding to each category is transformed into a *T* score ($M = 50$, $SD = 10$) and $T = 60$ is the cut-off point for diagnosing a personality disorder and $T = 5$ for diagnosing "features" (Lingiardi, Shedler, & Gazzillo, 2006; Marin-Avellan, McGauley, Campbell, & Fonagy, 2005). However, more recently, Westen and Shedler (2007) revised the initial approach and recommend using percentile and/or probability scores concerning diagnoses of personality.

It is noteworthy to mention that an important feature and strength of the SWAT is that it provides the ability to create a "narrative description of patients in plain clinical language," because of the clinically relevant language and descriptions of "personality functions" used for item statements. Therefore this instrument can provide both quantitative assessment in the form of a score and quantitative description of the individual in the form of a written report (Westen & Shedler, 2007, pp. 819-820).

The psychometric properties of the SWAT, evaluation of comprehensiveness and content validity of the adult and adolescent Q-sets, indicated that 84% and 86%, respectively, agreed or strongly agreed that the instrument provided the opportunity to express the things they considered important concerning the personality of their patients (Westen & Shedler, 2007). Further, studies assessing the psychometric properties of the SWAP have found strong convergent and discriminant validity (Westen & Shedler, 1999a; Westen & Shedler, 1999b). A subsequent study found the median correlation to be .82 between two judges, and also provided support for

strong convergent and discriminant validity, assessed by using "cross-informant correlations" between the mean of the aggregated scores of two clinicians and the scores of another treating clinician. The results indicated the median coefficient for convergent validity was .66 and -.06 for discriminant validity, low as expected (Westen & Muderrisoglu, 2006).

Assessment of the validity, reliability, and usefulness of the SWAP-200 using a forensic sample of 30 patients with personality disorders, also indicated promising results concerning its reliability and validity. The instrument showed very good interrater reliability, with a range of .81 to .96 and a mean of .89 (using Pearson coefficient). Compared to a standardized instrument, the SWAP reduced "diagnostic comorbidity" and showed expected relationships with independent assessment of "interpersonal functioning and categories of personality disorder" (Marin-Avellan et al., 2005, p. 28). However, due to limitations such as small sample size and no information about gender and ethnicity, perhaps limiting generalizability, these findings are only preliminary and need to be replicated. Similarly the SWAP-200-A for adolescents displayed construct validity, results indicated that it is "an empirically derived classification system that avoided problems of comorbidity and produced diagnostic prototypes that were clinically coherent and correlated in predictable ways with criterion variables" (Westen et al., 2003, p. 962).

Although focus has been more on classification of personality disorders (Westen & Shedler, 2007), Lingiardi and colleagues (2006) applied the SWAT to clinical assessment, showing how the application of the SWAP-200 when therapy commenced and after two years, yielded useful information paralleling the behavior, external, and personality changes of the patient. As the authors conclude, the SWAP-200 provided a means to address, "a common lament among clinical practitioners who treat PDs that outcome studies do not address the things that "really" change in psychotherapy" (p. 31). The SWAP-200 does indeed seem to achieve the goal of bridging "the gap between clinical and empirical approaches to personality assessment" (p. 31). However, this study was a single case, with several limitations, as duly noted by the authors.

Block (2008) criticized the SWAP on the grounds that (a) items requiring a great amount of inference were very likely to have low interrater agreement, and (b) the shape of the forced distribution had not been used before and was being applied a priori without empirical evidence. He argued that the items placed in the zero

category could actually be quite informative if discriminations were made on these items because positive as well as negative rankings both provide information. Further criticism was that (c) statistical analysis would be affected by the large number of items in the zero category, potentially inflating correlations; (d) there was no information about agreement between two raters, only agreement about experts contributing to a composite sort (with a reliability of > .90); (e) he considered "circular" the correspondence between SWAP composites and DSM diagnosis used to indicate validity; he criticized the SWAP for being structured according to DSM diagnoses, perhaps inherently being "shortsighted and limiting;" and (f) the procedure was a very long one (pp.112-117).

Overall, the SWAT has shown promising psychometric properties and its value is being recognized, as it is finding widespread application in diverse settings (Shedler & Westen, 2013).

3.7.3. Attachment Interview Q-sort.

An interesting and relevant instrument was developed by Roger Kobak in 1989, named the Attachment Interview Q-sort. Only some brief information will be mentioned about this instrument, as available through other studies. Unfortunately, the author was unable to retrieve a copy of this instrument, although multiple attempts were made over the years. The Q-sort is comprised of 100 items, with a bell shaped distribution and a 9-point continuum, the required items were category are 5, 8, 12, 16, 18, 16, 12, 8, 5, respectively (Dozier & Kobak, 1992; Kobak, Cole, Ferenz-Gillies, Fleming, & Gamble, 1993).

As explained by Crowell and Treboux (1995) this instrument offers an alternative method of scoring the AAI (George et al., 1985) and was derived from the original scoring system. It emphasizes the relation between affect regulation and attachment style by examining the use of minimizing versus maximizing emotional strategies. The interview is scored from transcripts using a forced distribution of descriptors in two dimensions: Security/anxiety and Deactivation/hyperactivation. Security reflects coherence and cooperation with the interview, and memories of supportive attachment figures. Deactivation strategies correspond to Dismissing strategies, whereas hyperactivating strategies reflect the excessive detail and active anger seen in many Preoccupied subjects. The individual's sort is correlated with a

prototypic sort, and the individual is classified into a Secure, Dismissing or Preoccupied category on the basis of the correlations with the prototypes (p. 7).

In a study conducted by Dozier and Kobak (1992), the Attachment Q-set was used to code the AAI interview of 50 undergraduate students. Using the Spearman-Brown prediction formula, composite reliability among two judges ranged from .60 to .91, yielding a mean of .73. Further support is offered by Zimmerman (2004) who reported that reliability among coder for composites using the Spearman-Brown formula ranged from .61 to .91, with an average of .78. At the dimensional score level this converts to correlation coefficients between .90 to .94. Also, as reviewed by Zimmerman (2004) concordance with classification using the system developed by Main and Goldwyn (1998) have been substantial ranging between 80 to 96%. Also, Allen and colleagues (2004) used the Attachment Q-sort to code the AAI of adolescents and reported test-retest reliability within a two year interval of .84 and .88, (Spearman-Brown).

3.7.4. Attachment Q-Sort (AQS).

The AQS (Waters & Deane, 1985), mentioned in Chapter 1 will be further explained here in relation to the application of Q-technique. The initial version of the AQS was developed over two years and included four stages of development. In the first stage the concourse from which the Q-set was derived was a review of literature on both attachment theory and behaviors in samples from both the United States and abroad. A list of behaviors, contexts and constructs were assembled. Ratings conducted during home visits with infants and toddlers contributed to the compilation of behaviors corresponding to the constructs. These were combined with the information from the literature to constitute the first version of the Q-set. During the second stage, subsequent visits using the items to assess behavior of infants and toddlers permitted further refinement of the item set by removing or revising behaviors listed on items that did not occur, had poor agreement or little variance across children. During the third stage the attempt was to achieve balance in the final Q-set of 100 items. During the fourth and final stage, parents were asked to use the Q-set to describe their children, revisions were made based on feedback from parents to eliminate jargon and clarify items (Waters & Deane, 1985). Although it is not clear at what stage, in a later publication the authors mentioned that developmental

researchers with expert knowledge in attachment during infancy informed the development of the Q-set (Waters, 1995).

The most current version, version three, consists of 90 items describing the behavior of infants and toddlers during interactions with their primary caregiver. These are sorted along a fixed distribution into categories ranging from characteristic to uncharacteristic of the child being described. Statements that are neither characteristic nor uncharacteristic, or not observed at all are placed into the middle categories of the distribution, with a frequency of 10 items in each category. A more rectangular shape was selected because parents found this easier to use. Analysis can be conducted at the item level, scoring of items corresponding to scales or by using criterion sorts. Waters and Dean (1985) created criterion sorts for Security, Dependency, Sociability, and Social desirability. Good agreement was indicated among the criterion sorts, with mean correlations ranging between .70 to .80.

An initial assessment of interrater agreement indicated that correlations ranged from .75 to .95. However, assessment involved six to eight hours of observations. The AQS was also completed by mothers twice; the composite Q-sorts of mothers and composite Q-sorts of observers were correlated and agreement ranged from .59 to .93, with a mean of .80. A review of the differences indicated that these discrepancies were clearly associated with the mother having “better access” to behavior than possible by the observers. Therefore, the authors concluded that mothers could successfully complete the AQS and provide useful data (Waters & Deane, 1985). However, in subsequent information provided by Waters (1987a), he clearly explained that it is preferable to used trained observers and not mothers for completed the AQS. In relation to interrater agreement, a subsequent study by Pederson and colleagues (1990) found a significant correlation of .72 among observers Q-sorts.

A meta-analysis of 139 studies yielding a total of 13,835 children assessed using the AQS by Van IJzendoorn and colleagues (2004), indicated promising psychometric properties, however only for the observer AQS and not the self-reported AQS, describing the former as a gold standard in the attachment field. The observer AQS indicated convergent validity with the SSP(Ainsworth et al., 1978), with a correlation of .31 and, as expected, disorganization in the SSP was linked to low security scores in the AQS, with a significant effect size of $r = .35$. Discriminant validity of the observer AQS as assessed in relation to temperamental reactivity,

showed expected negative associations (r = -.35) and predictive validity was also demonstrated by assessing the relation between AQS security and maternal sensitivity (r = .39). The combined stability across four studies for the observer AQS yielded a correlation of .28. Although the results are far from perfect, it can be concluded that the AQS "cannot replace the SSP, but it is in a good position to release attachment theory from its exclusive bond to a single measurement procedure" (p. 1207) and can be characterized as belonging to "the small set of gold standards" and thus in the same "league" as the AAI and the SSP (Van IJzendoorn, Vereijken C.M.J.L., Bakermans-Kranenburg, & Riksen-Walraven, 2004). With further support offered by more recent studies, in the NICHD studies of about 1000s children, the reliability agreement among raters at 10 coding sites was .73 for Security scores (Friedman & Boyle, 2008) and in study comprised of a sample of Canadian infants, an intraclass correlation of .72 was reported (Bouvette-Turcot, Bernier, & Meaney, 2013).

A strength of the AQS is that attachment security is assessed as a continuous variable (Vaughn & Waters, 1990), calculated by correlating an individual Q-sort with the criterion sort of a Secure child prototype, and the result will be a number ranging between -1.0 to +1.0, indicating positive or negative correlation with the ideal security criterion sort (Van IJzendoorn et al., 2004). Other strengths include application to a larger age group, increased ecological validity since it is conducted at home and not in a laboratory, it is less intrusive, it does not require training or certification or the use of space and equipment, and frequent assessment is possible, and biases such as practice effects and observer bias are prevented (Solomon & George, 2008; Van IJzendoorn et al., 2004). Lastly, an advantage of this instrument is that it can be adapted to assess the Secure-base behavior of children from "special populations" such as autistic children with only minor modifications. A study conducted by Rutgers and colleagues (2007) found that two existing criterion sorts could be combined into one criterion sort applicable to autistic children. Moreover the AQS diminishes the stress experienced by children with autism when assessed using the SSP because they are placed in an unusual environment which will be further compounded by the unexpected separations from the primary caregiver.

A limitation of the AQS is that good sorting is based on good quality observations and since observations are not videotaped it is not possible to refer back to the observed information. Furthermore, inherent to this procedure is the limitation

of naturalistic observations, such as an ill child, an unexpected visitor or any other unpredictable event that can occur in a non-laboratory, uncontrolled setting. In addition, it is unable to assess Insecure and Disorganized attachment and is very time consuming and potentially impractical to apply (Van IJzendoorn et al., 2004), since multiple visits are required lasting between six to eight hours.

3.7.5. ASCT Q-sort

Applying Q-technique to coding attachment was also adapted by Miljkovitch and colleagues (2004) who developed a Q-sort coding system for the ASCT (Bretherton et al., 1990), applicable to children from the age of three. The coding system produce scores for four attachment dimensions of Security, Deactivation, Hyperactivation, and Disorganization. Four criterion sorts were created corresponding to each of the four attachment categories. The attachment strategies were devised by drawing information from the AAI, SAT, and ASCT, but taking into account the age and cognitive ability of preschoolers, relevant modifications were made. Specifically, focus was not placed on quality of the narrative, but rather on how the child responds to attachment and distress themes presented during the ASCT.

Development of the Q-set, comprised of 65 items, was undertaken by watching videos of children completing the ASCT and drawing information from existing coding manuals. The items correspond to the child's overall responses during the ASCT, however some items focus on particular story stems. Items are sorted by watching videos of the ASCT and using a forced distribution with seven columns ranging from characteristic to uncharacteristic. Preliminary findings concerning interjudge reliability was promising with intraclass correlation coefficients ranging between .85 to .94 for the attachment dimensions. Also, examining association between the ASCT Q-sort and IQ, age, gender and SES yielded non-significant results.

3.8. Conclusions

Similarly to Block's approach being considered an evolution of Stephenson's work, development of attachment measures beyond infancy and before adulthood, seem to be an inherent part of evolution for attachment theory. In support of this Ainsworth (1990) explained that attachment theory as conceived by Bowlby "is an

open-ended theory – open to extension, revision, and refinement through research" (p. 463). Therefore, since the development of robust attachment measures for infancy (SSP) and adulthood (AAI) are generally acknowledged, it seems that the gap in middle childhood needs to be filled. The CAI attempted to achieve this and yielded satisfactory psychometric properties, rendering it as a promising instrument (Shmueli-Goetz et al., 2008). However refinements to the CAI are needed, especially in the coding and classification system.

To address the limitations of the current coding and classification system of the CAI, Q-technique was utilized, in order to develop an alternative coding and classification system, the Child Attachment Q-sort (CAQ). This new coding and classification system was developed to complement rather than replace the existing one, providing clinicians and researchers with two coding options. The limitations that were addressed and the process of development will be described in the subsequent chapters.

Chapter 4: Development of Child Attachment Q-Sort (CAQ)

The Child Attachment Interview (CAI) could be considered an important recent step in the history of attachment instruments and was standardized using a fairly large group of children comprised of both clinical and non-clinical samples, which has not often been the case of other measures of attachment in middle childhood. As described in Chapter 2, assessment of the psychometric properties of the CAI have yielded promising results (Target et al., 2003; Shmueli-Goetz et al., 2008), however the CAI is not without its limitations. The current chapter will document the development and pilot testing of the Child Attachment Q-sort, designed as an alternative approach to coding CAI videos aiming to address the limitations of the original CAI coding and classification system.

4.1. Application Difficulties of Attachment Measures

Most attachment measures tend to be used extensively in university settings for research and training purposes, however there is limited use of these instruments in clinical practice (O'Connor & Byrne, 2007). One obstacle is caused by training requirements and further assessment that is needed to become a certified reliable coder. Among the instruments with this limitation is the CAI. In addition, the fact that training is available for a limited number of people and only a few times per year acts as further deterrent (O'Connor & Byrne, 2007). This is further compounded by the fact that each organization wishing to incorporate attachment measures into their standard clinical assessment must invest time and money so that its clinicians can receive the necessary training and certification; however, they are always at risk that these clinicians may move to another post, thus leaving them without staff trained in using these instruments.

Another obstacle is that the majority of the research base for attachment measures is for infancy and preschool years. Although this is useful, it is not practical because infant mental health remains a specialized field and many clinics do not specialize in this area. Focus should rather be on measures for school-aged children because they are among the age groups commonly seen in the clinical setting. However, the evidence base for instruments in middle childhood remains

limited (O'Connor & Byrne, 2007). Therefore, it is evident that developing an instrument for middle childhood that can be utilized in a variety of settings requiring limited training is of increased importance.

4.2. Limitations of the CAI

As identified by the developers of the CAI, the areas for improvement concerning the coding and classification system are the integration of both verbal and non-verbal behavior (Target et al., 2003) and further development of criteria for identifying Disorganized attachment (Shmueli-Goetz et al., 2008). A detailed discussion of both of these limitations has been presented in section 1.3.1.1 of Chapter 1 and section 2.4.3 of Chapter 2. As mentioned previously and detailed in section 1.3.1.1 of Chapter 1, utilization of the CAI is limited by the extensive training and assessment of reliability that is required.

Therefore, further developing the CAI coding system to address these limitations and provide researchers and clinicians with an instrument that requires fewer hours of training and that can be used with greater ease seemed warranted. Simplifying the CAI coding system can also allow for widespread use of this instrument by various professionals ranging from researchers to social workers to clinicians. Moreover, this instrument can be useful in assessing the outcome of therapy and the attachment organization of a child when considering placement in foster care or adoption (Shmueli-Goetz et al., 2008) and in custody evaluations (Byrne, O'Connor, Marvin, & Whelan, 2005).

4.2.1. Aims and objectives.

The aim of this research was to develop and validate a new coding system for the CAI drawing on the strengths of using Q-technique, discussed in detail in Chapter 3. The purpose of developing a new coding system was to simplify the coding process, reduce the need for extensive training and for the requirement of reliability certification and to address limitations of the original CAI coding and classification system. To the knowledge of the author, a similar coding system for this age group does not exist. In particular, the innovative approach offered by an interview based instrument such as the CAI coupled with coding using Q-sort has not been attempted by other researchers for the assessment of attachment in middle childhood.

The CAQ was developed to provide holistic assessment of the child using 80 items that are Q-sorted (or rank ordered) and apply to all four of the attachment classifications. Therefore, when a Q-sort is completed, the distribution of items presented to the coder provides an overall description of the child, thereby the full spectrum of attachment behavior is presented and/or could be analyzed. Finally, a child is assigned an average for each of the attachment classifications, thereby allowing the possibility to compare scores across the different classifications. In some cases, a child may have a tied score between two classifications or a borderline score between two classifications, but this in and of itself can be quite useful when assessing a child; prompting the researcher to take a closer look as to why this has occurred and what information this could provide for the state of mind of a particular child.

The hypotheses of the present research can then be summarized as follows:

1. Due to the nature of the instrument (i.e., rating items at the observational level without requiring inference), coders without expert knowledge in attachment could reliably use the CAQ. Coders using the CAQ will achieve reliability results equivalent or better than the CAI, without requiring extensive training.
2. Attachment can adequately be measured using Q-sort technique, i.e. that the measure is valid.

4.3. Development of the CAQ: Applying Q to the CAI

4.3.1. Q-set – guiding principles.

The principles used to develop CAQ items were an adaptation of those used by Block (1961) to construct the California Q-set. The list below provides an explanation of each principle:[1]

Each item should fall within the assumptions of attachment theory. Each item was written bearing in mind the following: (a) the theoretical framework of attachment and research, (b) the description of infant behavior in the infant and preschool attachment assessment, and (c) the features of adult attachment narratives used to classify attachment interviews. While constructing the items, efforts were

[1] Information concerning the proceedings of the expert group were from personal communication with Peter Fonagy and Mary Target.

made to frame each item in ordinary language and in terms of observable behavior of the child avoiding the use of theoretical concepts and/or jargon. This would limit the "interpretive leaps" required by the rater (Shedler & Westen, 2007, p. 43) and make the instrument available to individuals without expertise in attachment.

Each item was written to represent a continuum of behavior, instead of an either or implication. The salience or importance of each item would be indicated by its placement in the Q-grid and not by its actual wording. For example, "Child seems bored or resentful about the interview (e.g. sulky), appears to want to get the interview over, or is irritated about being asked personal questions," if given a high score implies that activation of the child's attachment system is creating discomfort.

Each item was written with a focus on a single psychological or behavioral element and double barreled statements were avoided. The original set had such statements, but they were later broken down into additional items. For example, the single item, "Child verbalized deep affection for parents and shows immediate pleasure when asked to think of examples to describe relationships with mother and father," was broken down into two items and expanded for purposes of clarity as: "Child verbalizes deep affection for parents: child expresses very positive feelings about parents and shows unequivocal love for them"; and "Child shows immediate pleasure when asked to think about parents: immediate and clear smile on face when asked to think of examples to describe relationships with mother and father."

Each item was written to represent a "conceptually independent" variable, and although many variables were related, each item could make sense as a standalone concept and did not need to be combined with another to achieve this.

Related to the principle of conceptual independence mentioned above, efforts were made to avoid redundant items. In other words items, with a high correlation between them were reconsidered. Related items were included, but focus was placed upon avoiding "equivalent" items. It is desirable to include related items because this

> preserve[s] the possibility of expressing in the Q-sort those very crucial instances of…[attachment] configurations where the usual correlation does not exist... It is important to describe an individual with the one characteristic but not the other for there are instances where a conventional relationship fails to hold. In order to express the many exceptions to the usual correlation (Block, 1961, p. 44) between these variables.

A further issue regarding redundant items is that two concepts that are opposite in terms of logic and language, may not be psychological opposites. For example, anger may be the opposite of self-blame, but for some children these variables are present simultaneously and can be associated with the child's oppressive view of the self and their family. Therefore, two seemingly opposite concepts that could seem related were included when there was empirical/theoretical evidence to believe they could co-exist.

Lastly, effort was made to avoid items eliciting value judgments from the rater, i.e., to avoid writing items in a form that would indicate certain behaviors as being desirable or undesirable. In particular, even if the rater was aware that one behavior is more associated with attachment security, care was taken not to imply this at the level of item wording. Effort was made not to imply that Insecure behavior was undesirable, instead the general assumption was that forms of attachment behavior in children are the best way they have found to manage their dependent relationship to their caregivers and to regulate affect. Therefore, describing a child as, for example, being bored by the question is not intended to be a criticism, but a neutral observation.

The principles mentioned above were used as a guide during the process of developing the CAQ items. Statements were framed having these principles in mind. However, similar to Block's (2008) assertion concerning the CQ procedure, the CAQ was not intended to be an exhaustive or all encompassing list of every possible behavior manifested within each attachment classification. Instead, the CAQ was developed with the intention of providing an instrument to code and classify attachment, with an item set broad enough to adequately cover the critical behaviors manifested by each of the four attachment classifications and providing a language useful for categorizing each child.

4.3.2. Q-set – creating statements.

The item sample used in the current study was drawn by four attachment experts (Tom O'Connor, Mary Target, Peter Fonagy and Gerry Byrne) from watching CAI videos, and gathering items for different attachment categories, and attachment behaviors as observed in middle childhood.

All of these individuals were trained in coding the AAI and were very familiar with other attachment instruments. They spend 30 hours watching videos

and discussing the items. The resulting set of items differed from what one would expect to see based on the CAI coding manual and other attachment coding systems because the expert group undertook this task without thinking in terms of attachment coding manuals and criteria. Instead they focused on watching the CAI videos and seeing that for example, many children seem to be actually scared of the interview or there are many children that seem very intrusive with the interviewer, for example looking through the hand bag of the interviewer and commenting on personal pictures they find, when they are meant to be answering the CAI questions.

For the development of Disorganized items, interviews of Romanian orphans adopted by British families (O'Connor et al., 2003) were viewed by the panel, then discussed and relevant information was gathered. It is reasonable to assume that these interviews were likely to be indicative of Disorganized attachment behavior since all of these late adopted children had experienced severe neglect for varying amounts of time throughout infancy and early childhood.

Overall, the task was not approached in terms of thinking of 20 items that correspond to the attachment coding for each of the four categories, but more in terms of noticeable behaviors observed in these children, recording those and then sorting the items into what conceptually seemed to relate to attachment. Thus, some of the unusual behaviors suggested Disorganization of relating and affect, whereas some of the Preoccupation looked more like depression and grievances.

The expert coders produced in excess of 200 descriptors of the narratives obtained from interviews. These items were then reviewed by the group and overlaps were eliminated and items combined. Some items which included descriptors often not found together were split into separate items. This process resulted in excess of 120 items. Throughout they paid particular attention to make sure items covered the whole spectrum of behaviors especially for Disorganized attachment.

The expert group then independently categorized all the items into four categories (Secure, Dismissing, Preoccupied, and Disorganized). The agreement between the expert categorization was almost perfect, in terms of assigning statements to attachment categories. The items in each category were then rank ordered by the entire group, in terms of typicality of the item for that category and the 20 items agreed to be most typical were chosen for each of the four categories.

The wording of items was then revised because initially each item had the length of a long paragraph. To allow other coders to use the CAQ with greater ease,

items were reworded to be shorter and transparent in meaning. Furthermore, testing of the CAQ on undergraduates indicated to the expert group that the items were not easily understood by an individual with minimal knowledge on attachment. Thus the items were again reworded to improve some of the difficulties encountered by this naïve group of coders.

The final Q-sort consisted of 80 items (see section B.1 of Appendix B for a full list of items) with 20 items corresponding to each type of attachment classification (Secure, Dismissing, Preoccupied, and Disorganized).

4.3.3. Distribution.

Following the proposal of numerous researchers (e.g., Block, 2008; Stephenson, 1987; Watts & Stenner, 2012) as discussed in detail in Chapter 3, CAQ coders are required to respond using a fixed distribution. This seems to be the most practical approach to data collection and subsequent analysis, focusing on creating analogous and comparable distributions that correspond to the attachment classification of the observed interview rather than reflect the idiosyncrasies of various judges (Block, 2008). The CAQ followed the suggestion of Bolland (1985) and included seven categories for the distribution continuum, to simplify the Q-sorting task for each assessor. Lastly, following the advice of Brown (1980) the shape of the distribution approached a bell-shaped curve, but tended to be steeper making it a more manageable task for coders even if they lacked expertise knowledge in attachment and child development. Flatter distributions are intended for more expert judges, however the CAQ was developed with the intention of not restricting usage to expert judges, but rather making it available to individuals with wide backgrounds.

4.3.4. Single attachment classification.

The CAQ was developed to assess attachment as a single state of mind for both parents. Conducting only a single assessment of attachment that would be representative of both parents would help shorten the coding process and contribute towards the goal of creating a time efficient measure with greater usability in the applied setting (Kline, 2000). In the event, that the coder feels that there may be great discrepancy between attachment to primary caregivers, it is of course possible to conduct a separate Q-sort corresponding to each caregiver.

This decision was supported by the findings of the CAI, where concordance between the three-way attachment classifications of mother and father was exceptionally high evidenced by a kappa of .84 and a 92% agreement. As explained by the developers of the CAI, this very high concordance suggested that it may be efficient to assess attachment using a single index and not require separate assessment for each parent, as children may actually hold a single, overarching, integrated internal working model (Shmueli-Goetz et al., 2008). Further support of this notion was offered by the research conducted by Granot and Mayseless (2001) where assessment in attachment in middle childhood using the ASCT, yielded an agreement of 72% between the attachment classification of parents.

Lastly, it is important to clarify that the application of Q-technique for the development of the CAQ resulted in the utilization of mostly quantitative methods, resulting in an ipsative, scaling method, similar to the CQ (Block, 2008), standing in contrast to the combination of qualitative and quantitative methods utilized by traditional Q-methodology. This occurs because the actual CAQ procedure, where items are placed in predetermined categories is analogous to rating. Moreover, the CAQ cannot be considered as taking a qualitative approach because it does not provided a free system where a whole range of interpretations can be made, coded, and reported thus retaining the full richness of the data collected through the interview. Instead, a predetermined framework for assigning an attachment classification to each child is utilized by the CAQ.

4.4. Pilot Study 1

This first pilot study presents some of the findings related to preliminary assessment of the CAQ including its development and basic psychometric properties. Interrater reliabilities and internal consistency are reported. The criterion validity of the CAQ is assessed through, (a) correspondence of CAQ and CAI classifications and (b) correspondence between the four scales (Secure, Dismissing, Preoccupied and Disorganized) of the CAQ and the eight scales of the CAI (Emotional Openness, Preoccupied Anger, Idealization, Dismissal, Balance of Positive/Negative References to Attachment Figures, Use of Examples, Resolution of Conflict, and Overall Coherence). The latter analysis was designed to offer preliminary information concerning construct validity. It was expected that an association would emerge

between the scales in the direction indicated by the original CAI classification system.

4.4.1. Methods.

4.4.1.1. Participants.

All of the samples used in the studies comprising this thesis were subsamples from a larger study conducted at the Anna Freud Centre (AFC) to develop, assess, and standardize measures for children in middle childhood, for which ethical approval was obtained from the relevant ethics committees (see section E.2 of Appendix E). A pack of information was sent to parents including an invitation letter to take part in the study, information letters with a parent and child version explaining the nature of the research, and separate consent forms for the parent and child (see Appendix E).

The author undertook the task of modernizing the CAI data available by organizing the existing archive of 280 videotaped interviews only available on VHS tapes, converting these tapes into an electronic format that could be viewed on any computer or DVD player and extensively processed the videos using computer software to improve their image and sound quality, as this was often quite poor. This allowed videos to be stored more efficiently and contributed to protecting the confidentiality of participants since it is far easier to password protect and lock away a hard disk drive. Furthermore, this allows facilitation of future collaboration with other researchers on this data. In addition, all of the interviews were transcribed by the author of this thesis making the data set complete and readily available for coding.

In the current study, the sample consisted of 31 children in middle childhood, 17 (55%) were from three different classes of a local Manchester primary school, comprising a sub-sample of children who had previously taken part in a pilot study MCAST conducted by Dr. Jonathan Green and colleagues (Goldwyn et al., 2000; Green et al., 2000) and 14 (45%) were recruited from assessment referrals made to three London specialist mental health clinics. Referrals mostly concerned emotional and behavioral problems. Children with pervasive development disorders and IQ less than 70 were excluded from the study.

The particular sample of children used in the current (except for one randomly selected case) comprises the three sets of cases given to trainees for CAI

reliability certification. This sample was considered the best option for this first pilot study because these cases were considered to be particularly clear, with minimal ambiguity, but presented adequate complexity. Also, the standard CAI scoring and classification for these cases has been double checked and tested quite thoroughly at the AFC. Hence, these cases are considered the best established cases of codable, reasonably clear cut attachment classifications.

The overall sample consisted of children from both a normal and clinical population, and although the differences between the two groups were not explored as it was not the purpose of the present study, including both groups was expected to provide the opportunity to work with a wide range of attachment classifications. As indicated by a meta-analysis conducted by Van IJzendoorn, Shuengel, and Bakermans-Kranenburg (1999), the percentages of attachment classification, as observed in the general population are 62% Secure, 15% Dismissing, 9% Preoccupied and 15% Disorganized. In the sample of 31 children this would be expected to approximately equate to 19 Secure, 5 Dismissing, 3 Preoccupied, and 5 Disorganized. Therefore, raters would have experience predominantly coding Secure children and limited experience in coding the other types of classifications.

As displayed in Table 4-1, the overall sample, consisted of children between the ages of 7.2 to 12.9 years of age (M = 9.8, SD =1.2). Twenty (64.5%) were female, 10 (35.5 %) were male and 24 (80%) of these children were Caucasian, with middle class and working class families constituting 64 and 36% of the sample, respectively.

Table 4-1. Demographic Information of the Overall Sample.

Demographic Variables	Overall Sample (N = 31)
Age (Years)	M = 9.8 (SD = 1.2)
Range	7.2 - 12.9
Females	20 (64.5%)
Caucasian	24 (80%)[a]
SES Middle Class	18 (64%)[b]
Working Class	10 (36%)

[a] Ethnicity data missing for 1 child; [b]SES data missing for 3 children.

4.4.1.2. Measures.

4.4.1.2.1. Children.

4.4.1.2.1.1. Child Attachment Interview (CAI).

The CAI (Shmueli-Goetz et al., 2008; Target et al., 2003) is a semi-structured interview designed to assess attachment in middle childhood described in detail in section 1.3.1.1 of Chapter 1. Please refer to section D.1 of Appendix D for the CAI Protocol.

4.4.1.2.2. Raters

4.4.1.2.2.1. Child Attachment Q-Sort (CAQ).

The CAQ is the coding system under development that can be viewed as a further development of the CAI coding system which will use the same information collected by the questions of the CAI, but will apply a different approach to coding and classification of attachment for middle childhood.

4.4.1.3. Procedure.

The children were assessed by an interviewer trained in administering the CAI. A minority of the children were assessed at home as per the request of the parents. The CAI interviews took place in a private and quiet room where only the interviewer and the child were present and situated across from each other.

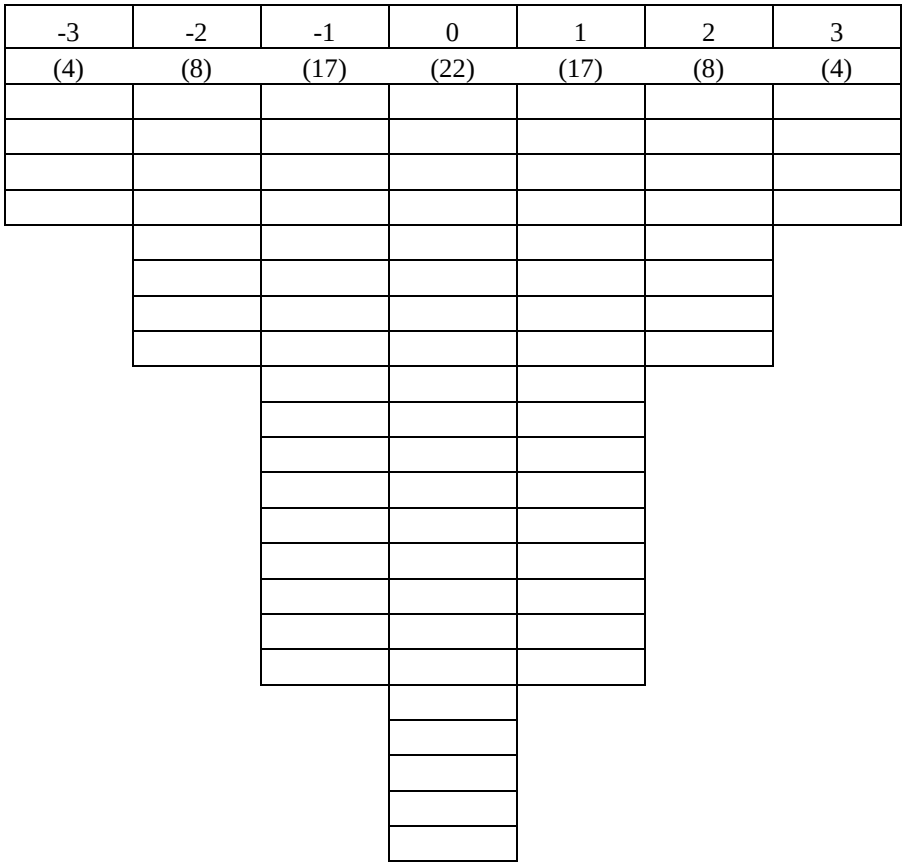
Before beginning the interview, the interviewer explained to the child the purpose of the interview (see section D.1 of Appendix D), assured confidentiality of the information disclosed and that participation was voluntary. Lastly, the interviewer ensured the child was comfortable and explained that the interview could be terminated at any time by the request of the child. The duration of the interview was approximately 30 minutes, however this varied from 20 minutes to 1.5 hours depending on the responses of each child. All of the interviews were videotaped.

4.4.1.4. Coding and interrater reliability of the CAQ.

Coding using the CAQ involved watching the CAI video of each child along with a verbatim transcript and then reading each of the 80 items and placing them in three piles (disagree, neutral, and agree). For each child, the items were read by the judge in random order as they were placed on individual cards which were shuffled before each rating. The piled items were sorted again using a scale that ranged from -3 (most strongly disagree), through 0 (neutral) to 3 (most strongly agree) and fixed number of items were placed under each point on the scale, which once completed

took the form of a quasi-normal distribution (see Figure 4-1). The four items the judge most agreed with were placed under the column with value 3 and the next eight items agreed with were placed under the column with value 2; sorting was continued in this manner until the response matrix was completed.

Figure 4-1. Quasi-normal Distribution and Response Matrix for Q-sort items.



Coding of the entire sample using the CAQ was undertaken by the author. However, prior to this, 11 randomly selected cases were independently coded by the author and Mary Target (MT) for training and reliability purposes. A close examination of these 11 cases took place, where the two judges independently rated each case and then discussed any ambiguities and disagreements that arose. Assessment of interrater agreement for the main classification, across these 11 cases was very high, kappa = .84[2] (p <.001). In addition, Pearson correlations were high for scores assigned to each interview on all four CAQ scales, Secure (r = .97), Dismissing (r = .85), Preoccupied (r = .82), and Disorganized (r = .96).

Following this, 20 cases were then rated independently by the author who had undertaken formal CAI reliability training with one of the developers of the CAI narrative coding system (YSG) prior to undertaking the coding task. Lastly, coding

[2] Kappa level interpretation is based on Landis and Koch (1977).

of the entire sample using the CAI was completed by two independent judges, the author and YSG.

4.4.2. Results.

This section reports the distributions of attachment classification using the CAQ and CAI to assess interviews, descriptive statistics for CAQ items, the internal consistency of the CAQ scales, preliminary analysis of CAQ items and scale validity, correlations between CAQ and CAI scales, and concordance between the CAQ and CAI classifications. Associations with demographic variables will be examined in Chapter 7.

4.4.2.1. Descriptive results.

The distribution of the original CAI attachment categorizations based on YSG's codings is shown in Table 4-2. This table shows that the largest group of interviews chosen for this study was classified as Secure (39%). Within the Insecure group, there was a predominance of the Dismissing classification (32%), followed by the Disorganized group (19%), and then by the Preoccupied attachment (10%).

The distribution of CAQ attachment classifications based on the author's codings, also shown in Table 4-2, indicated that an equal proportion of children were classified as Secure (32%) and Dismissing (32%), whilst 19% of the children were classified as Preoccupied, and 16% as Disorganized.

Table 4-2. Distribution of CAI and CAQ Attachment Classifications.

Classification	CAI		CAQ	
	N	%	N	%
Secure	1 2	39	10	32
Insecure				
Dismissing	10	32	10	32
Preoccupied	3	10	6	19
Disorganized	6	19	5	16
Total	31	100	31	100

When the distributions of the CAI and CAQ were compared (see Table 4-2), results showed that there was not a significant association between them (χ^2 (3, *N* =

31) = 3.21, *n.s.*). However, it is worth noticing that the Preoccupied and the Disorganized attachment groups presented a reversed tendency in their percentages (i.e., in the CAI the Disorganized group was composed of a higher percentage of children compared to the Preoccupied group, whilst in the CAQ the opposite was true).

The mean, standard deviation, skewness, kurtosis, and range of use of each CAQ item when applied to the sample of interviews are shown in Appendix A, Table A-1. The range of use of each item (which ideally goes from 1 to 7) showed that a high percentage of items were used in a satisfactory range: 23 items (29%) were used in their full range, 38 items (48%) in a 5-point range, 9 items (11%) in a 4-point range, and only 10 items (13%) in a 3-point range. The idea that ratings of items were not restricted to a narrow band of low or high scores was also evidenced in that the mean and standard deviations of the full set of items ranged from 2.0 and 5.65, and from 0.68 to 2.16, respectively.

Based on the mean standard deviation (1.3) and the pooled standard deviation of the entire sample (0.32), *z*-scores were calculated for each CAQ item (a *z*-score above or below +/-1.86 indicates an exceptionally high or low variability). Results showed that only four items presented an exceptionally high variability (with *z*-scores ranging from 1.99 to 2.16) and only one item displayed an exceptionally low variability (> -1.86). Specifically, the four items with high variability were: Item 28 ("Clear evidence of going to parent for emotional help/guidance/support..."),[3] and Item 39 ("Convincing examples of parents soothing child.") from the Secure scale; Item 47 ("The child offers only 1-2 adjectives for the relationship with at least one of the parents.") from the Dismissing scale; and Item 61 ("The interview is unusually long...") from the Preoccupied scale. It is possible that these items had particularly clear referents and this might explain why they were most frequently placed at the extremes of the sorting distribution. On the other hand, the item displaying low variability was Item 46 ("The coder feels that the child's response seems false, unconvincing.") from the Dismissing scale. In contrast to the previously mentioned four items, this item requires a higher inference level from the raters and may be quite hard to judge. Hence, its placement in the middle of the distribution might be reflecting the raters' difficulty to use it without explicit behavioral cues.

[3] For long items, only the first phrase or sentences was included. For a full description of items see section B.1 of Appendix B.

4.4.2.2. Internal consistency of CAQ.

The internal consistency of the four CAQ attachment scales was assessed using Cronbach's alpha (see Appendix A, Table A-2). All the scales presented high internal consistency, the Disorganized scale had a Cronbach's alpha of .96; the Preoccupied scale had an alpha of .89; the Secure scale an alpha of .87; and the Dismissing scale had an alpha of .80.

Table A-2 in Appendix A displays the corrected item total correlations and Cronbach's alpha if an item was deleted. These results indicated that particular items within the Dismissing, Preoccupied, and Secure scales were sometimes inconsistently coded and slightly affected the internal consistency of those scales. Specifically, in the Secure scale Item 21 ("Open and convincing discussion of a range of feelings..."), Item 24 ("Child seems reflective and thoughtful..."), and Item 31 ("Child readily comes up with examples...") displayed a low item-total correlation (< .3), which reflects that those items had a low correlation with the overall scale and indicates that they may be measuring something different from the scale as a whole. In addition, Item 27 ("Shows immediate pleasure when asked to think about parents...") presented low item-total correlation and lowered the scale's internal consistency (if item were deleted alpha would be .88 instead of .87).

Regarding the Dismissing scale, four items both presented low item-total correlation and lowered the alpha. These items were: Item 55 ("Child shows non-verbal signs of discomfiture...), Item 58 ("Child avoids talking about attachment aspects of experience..."), Item 59 ("Child appears to assume that he/she is able to deal with most things by him/herself."), and Item 60 ("Child's responses appear to be the least possible in answer to question..."). The internal consistency of the Dismissing scale would increase from .80 to .83 if either Item 55 ("Child shows non-verbal signs of discomfiture...") or 60 ("Child's responses appear to be the least possible in answer to question...") were deleted.

Finally, the Preoccupied scale had two items with low item-total correlation and that lowered the scale's alpha: if Item 61 ("Interview is unusually long...") or Item 79 ("Child has difficulties in focusing on and answering the question...") were deleted the scale's alpha would increase to .90 (instead of .89). In addition, Item 68 (Child holds the floor and makes it hard for the interviewer to find space...") presented a low item-total correlation, but its deletion would not change the scale's internal consistency.

4.4.2.3. Assessing validity of CAQ items.

The validity of the CAQ items was explored by examining whether each item that composed the four attachment scales presented the highest mean in children classified in those same attachment groups. In order to conduct this analysis, firstly the mean score for each item in children classified in the four attachment groups were calculated (i.e., the mean for each CAQ item was calculated across the five children with Disorganized attachment, the six children with Dismissing attachment, the five children with Preoccupied attachment, and the 19 children with Secure attachment). Then, the attachment group with the highest mean score was identified for each item (e.g., for Item 2 the Disorganized children had a mean of 4, the Secure children had a mean of 2.16, the Dismissing children had a mean of 2.33, and the Preoccupied children had a mean of 2; hence, Item 2 was classified as most present in Disorganized children). Next, a table was constructed crossing the items' intended attachment classification with the items' observed attachment group.

Results indicated that there was high correspondence between the intended items' categories and the observed items' classifications (Cohen's kappa was .89), indicating that most items were most frequently highly placed in the CAQ category for which they were intended. Specifically, as indicated in Table 4-3, 100% (20) of the intended Secure items presented a higher mean in children classified as Secure on the CAQ coding, 95% (19) of the intended Disorganized items had the highest mean for the group Disorganized children, 75% (15) of the intended Dismissing items presented a higher mean in the group of children classified as Dismissing, and 75% (15) of the intended Preoccupied items had the highest mean for the group of Preoccupied children.

Table 4-3. Highest Scoring CAQ Items Grouped by CAQ Attachment Classification.

Observed classification	Intended Classification				
	Secure	Dismissing	Preoccupied	Disorganized	Total
Secure	20	1	0	0	21
Dismissing	0	15	4	1	20
Preoccupied	0	2	15	0	17
Disorganized	0	2	1	19	22
Total	20	20	20	20	80

Despite these good results there were some items that were not mostly used by the attachment group intended in all scales but the Secure. The five Dismissing items that were not characteristic of the Dismissing children were distributed across the other three attachment classifications: one item was more characteristic of the group of Secure children (Item 55)[4], two of the Preoccupied children (Item 44 and 46), and two of the Disorganized children (Item 47, "The child offers only 1-2 adjectives for the relationship with at least one of the parents." Item 54, "Child seems bored or resentful about the interview."). Regarding the five items intended in the Preoccupied but that were used for other classifications, four of them were more characteristic of children in the Dismissing interviews (Items 75, "A few examples are offered in answer to several questions...," Item 78, "Interviewer has to supply much of the organization to the interaction...," Item 79, "Child has difficulties in focusing on and answering the question...," and Item 80, "child has great difficulty in thinking about experiences with the caregivers.") and one of the Disorganized group of children (Item 64, "The child wants the interviewer to agree with his/her view of situations being described, by expressing indignation or unhappiness."). Lastly, only one item (Item 19, "Unable to elaborate on questions that tap mental states...") in the Disorganized subset scored highest for another classification (Dismissing children).

4.4.2.4. Assessing validity of CAQ scales.

With the aim of assessing the validity of the CAQ scales, four point biserial correlations were conducted between the four CAQ scales and the CAQ two-way attachment classification. As presented in Table 4-4 results showed a high, positive

[4] Item wording mentioned previously will not be repeated.

and significant correlation between the Secure group and the Secure Scale, and a negative, moderate and significant correlation between the Secure group and the Dismissing and Disorganized scales.

Table 4-4. Correlation between CAQ scales and Secure/Insecure Classifications (*N* =31).

	CAQ scales			
Attachment group (CAQ)	Secure	Dismissing	Preoccupied	Disorganized
Secure/Insecure[a]	.78**	-.39*	-.34	-.44*

Note. [a]Secure =1 and Insecure = 0.
*p < .05. **p<.01.

4.4.2.5. Correlations between CAQ and CAI scales.

CAQ scales and CAI scales were correlated with the aim of assessing validity of the CAQ by examining whether the CAQ scales correspond with the CAI scales in the expected direction and strength based on the (mostly different) markers provided in the CAI coding and classification manual.

Table 4-5 presents the correlation matrix of the scales derived from the CAI and CAQ coding systems. Most of the correlations were as expected, including those that presented low correlations were expected to present low levels of strength. Specifically, the CAI scales of Emotional Openness, Balance of Positive/Negative References, and Use of Examples correlated positively with the CAQ Secure scale and negatively with Dismissing and Disorganized scales. Importantly, Involved Anger related to the Preoccupied CAQ scale, while Idealization and Dismissing CAI scales related to the Dismissing CAQ scale. As would be expected, Overall Coherence ratings of interviews on CAI coding related most strongly positively to Security and strongly negatively to Disorganization in the CAQ scales.

Table 4-5. Correlation Matrix for CAQ and CAI Scales (*N* = 31).

	CAI scales							
CAQ scales	EMOT	BAL	EXAM	ANGR	IDEAL	DISM	CONF	COH
Secure	**.79****	**.38***	**.83****	-.34	-.10	-.55	**.83****	**.88****
Dismissing	-.55**	-.28	-.58**	-.33	**.36**	**.60****	-.41*	-.39*
Preoccupied	.13	-.11	.11	**.66****	-.29	-.21	-.10	-.11
Disorganized	-.65**	-.16	-.66**	.27	.02	.34	-.65**	-.73**

Note. EMOT = Emotional openness; BAL = Balance of positive/negative references to attachment figures; EXAM = Use of examples; Preoccupied/Involved Anger; IDEAL = Idealization of attachment figures; DISM = Dismissal/derogation of attachment; CONF = Resolution of Conflict; COH = Overall coherence; Correlations predicted to be positive are bolded; Correlations predicted as negative are underlined.

*$p < .05$. **p<.01.

4.4.2.6. Agreement between CAQ and CAI attachment classifications.

To examine the agreement between CAQ and CAI attachment classifications three analyses were conducted. For the first one, children were assigned an attachment classification based on his/her highest score in the four CAQ scales (four-way classification). For the second analysis, children whose main attachment classification was Disorganized in the four-way, were then assigned a second alternative classification based on their second highest CAQ scale score (three-way classification). This followed the procedure that is used with the CAI, where a Disorganized child is assigned a second alternative classification by examining the constellation of scores on each of the eight scales and placing him/her into the best fitting alternative classification. The third analysis classified children in either Secure or Insecure attachment categories depending on whether their highest score was in the Secure scale or in the mean score of the other three CAQ scales (two-way classification).

Regarding the four-way classification analysis, results showed that there was substantial agreement between the CAQ and CAI categories ($\kappa = .64$), with 75% agreement between attachment classifications (see Table 4-6).

Table 4-6. Concordance between CAQ and CAI Main Attachment Classifications (*N* = 31).

	CAQ classification				
CAI classification	Secure	Dismissing	Preoccupied	Disorganized	Total
Secure	9	2	1	0	12
Dismissing	1	7	1	1	10
Preoccupied	0	0	3	0	3
Disorganized	0	1	1	4	6
Total	10	10	6	5	31

Results for the three-way classification are showed in Table 4-7. There was a substantial agreement between raters when children classified as Disorganized in the four-way classification were re-distributed in a three-way classification ($\kappa = .66$ and percentage of agreement = 74%).

Table 4-7. Concordance between CAQ and CAI Secondary Attachment Classifications (*N* = 31).

	CAQ classification			
CAI classification	Secure	Dismissing	Preoccupied	Total
Secure	9	1	2	12
Dismissing	1	10	3	14
Preoccupied	0	0	5	5
Total	10	11	10	31

Finally, the two-way classification presented in Table 4-8 also showed excellent levels of agreement between raters ($\kappa = .72$ and percentage of agreement = 87%).

Table 4-8. Concordance between CAQ and CAI Attachment Classifications (*N* = 31).

	CAQ classification		
CAI classification	Secure	Insecure	Total
Secure	9	3	12
Insecure	1	18	19
Total	10	21	31

4.4.3. Discussion.

The aim of this study was to pilot test a new instrument that uses the same administration process as the CAI, but utilizes a new system for coding and classification. The CAQ was designed to (a) build on the uniqueness of the CAI to activate the attachment system and elicit both emotional and cognitive responses to attachment issues by use of direct questioning, (b) draw on the advantages of Q-sort technique to develop a classification system that assesses both behavioral and cognitive aspects of attachment, and (c) to make available a clinical assessment instrument with increased usability and rather limited training requirements.

Overall, the findings of this study concerning the validity of the CAQ were encouraging. Preliminary assessment of construct validity of the CAQ was supported by the predictable patterns of association between the CAQ and CAI scales and by the high internal consistency of all four CAQ scales. These findings seem to indicate that the CAQ is tapping a coherent construct which is closely related to the constructs measured by the CAI system. Criterion validity was supported by the substantial agreement between main and secondary attachment classifications of the CAQ and CAI. Interrater agreement between the author and MT (completed for about 1/3 of the interviews) was very high, which is similar to the findings of the AQS (Teti & McGourty, 1996). This finding also supports the views of Waters and Deane (1985) that different observers using a standard set of Q-sort items essentially assess the same content to describe each interview. Nevertheless, the above results should be interpreted with some caution as the level of agreement may be inflated by homogeneity of training experience, the fact that the author completed CAQ training with MT and CAI reliability training under the supervision of YSG. This highlights the need to test the validity of the CAQ coding and classification system by examining agreement between CAI and CAQ coding of (CAI and CAQ-naïve) independent coders. Such an undertaking is considered an essential step in determining further the reliability of the CAQ and will be addressed in the next study. Furthermore, this will constitute an important step in examining if the CAQ is indeed an instrument that can be utilized with limited training, therefore meeting one of its main objectives.

A closer examination of the items contained in each scale revealed several interesting findings which suggest considering modifications to the instrument.

Firstly, certain items were consistently placed at the extreme ends of the distribution during coding, indicating that these items were either very characteristic or very uncharacteristic of each interview. These items may have discriminated between narratives and served to differentiate the children more. Two of these items belonged to the Secure scale and it is notable that both of these items made reference to the child holding expectations and perceptions of the attachment figure as responsive and available during times of need, which according to attachment theory constitutes the basis for Secure attachment (Bowlby, 1969/1997). Examining the CAQ sorting of each interview showed that both Items 28 and 39 differentiated between interviews classified as Secure and Insecure, however the former indicated an even stronger tendency to differentiate. This may be explained by the fact that Item 28 reflects times of needs as being of emotional nature whereas Item 39 reflects general distress and upset. Therefore this may show that expectations of emotional needs being met constitute a stronger indicator of Secure attachment than does general distress which may be displayed in varying degrees in other attachment classifications.

Even more interestingly, Item 47 from the Dismissing category differentiated most strongly between Dismissing and Secure interviews. This reflects that Secure children are able to handle the mild stress placed on them by the interview and address the task of offering three adjectives to describe their relationship with their mother and father. Dismissing children find this task most difficult with varying degrees of this observed with Preoccupied and Disorganized children. It is also worth noting that in most cases the Disorganized interviews that received a high positive rating for this item were sub-classified as Dismissing. Lastly, Item 61 from the Preoccupied scale was least characteristic of Dismissing and Secure children and most characteristic of Preoccupied and Disorganized children. Again, the Disorganized children scoring high on this item were sub-classified as Preoccupied. These observations are all consistent with the suggestion that high variance CAQ items pertain to readily observable phenomena on which coders make judgments without too much doubt.

Moreover, examining the variance of items indicated that Item 46 from the Dismissing scale displayed the lowest variance. Reflecting on the coding process for this sample of interviews it seems probable that in most cases the coder found this item difficult to judge and tended to give it a neutral rating. This indicates that Item

46, as it is worded may not correspond to any particular attachment classification and needs to be reconsidered.

Item level analysis also indicated that about a quarter of items within the Dismissing and Preoccupied CAQ scales received higher scores in interviews classified by the CAQ into attachment classifications that were different than those for which the items were intended. Although it was encouraging that Secure and Disorganized items (with the exception of 1 item) consistently received the highest scores for Secure and Disorganized interviews, respectively, and overall correspondence between items and classifications were high, indicating that a well developed standard vocabulary for each scale was available (Waters & Deane, 1985), changes need to be considered for the Dismissing and Preoccupied scales.

All of the mismatching items will be noted for future consideration, as it may be the case that mismatched items were the result of an overlap in some of the features characteristic of certain attachment classifications. It may also be possible that this occurred because some interviews tended to display a high incidence of features which were characteristic of two types of attachment classifications. This might have placed them on a borderline between two classifications; therefore, this may also have contributed to the mismatching of items.

However, for current purposes, none of the items will be removed or revised before the item set is adequately and thoroughly tested, because it was developed with a reasonably comprehensive collection of observations of a large collection of videos. The expert group had reviewed the items many times and constantly considered if there were things that have not been captured and they tried to avoid repetition to make sure all of the important things observed were included in the item set. Some of the items of the CAQ do not appear in the CAI coding manual because the latter was based on the Strange Situation and the AAI, and was not based on directly observing children talking about their families. Development of the CAQ attempted to observe attachment directly rather than through the lens of either behavior or narratives in other age groups. Hence it was considered best to extensively use and test the CAQ item set, as a coherent set before considering removing certain items.

Juxtaposing the item level analysis and the results of scale internal consistency, the Dismissing and Preoccupied scales consistently raised concerns. However, the items of the Preoccupied scale appeared to be most problematic

indicated by the higher number of items displaying inconsistent coding and low correlation with the overall scale. As indicated by the present study and previous research, Preoccupation has repeatedly proven difficult to assess (Main & Cassidy, 1988; Shmueli-Goetz et al., 2008; Wartner et al., 1994). Similarly, during the development of the CAQ items, Preoccupation was the only classification for which difficulties were encountered. This may be attributed to the fact that Preoccupation was underrepresented in the samples used in previous research and also for the development of CAQ items.

Although the analysis mentioned above raises some concern for the validity of the CAQ system, it simultaneously provides strong evidence to support the premise that applying Q-technique reduces experimenter bias and halo effects (Waters & Deane, 1985). This occurs because coders are blind about which scale they are coding through placement of an item. CAQ items are printed on separate cards, shuffled before each coding and thus sorted in random order by the researcher. Then based on the highest scoring scale, an attachment classification is assigned to the interview. Throughout this process the researcher does not have the ability to interfere or affect the results by preconceptions or expectations they have concerning the attachment classification that will be assigned, unless they are highly familiar with attachment like the originators of the item set. This is a unique quality of the CAQ: the researcher simply assigns a rating based on data obtained from the interview. Therefore, this strength afforded by utilizing Q-technique not only reduced bias, it also allowed for problematic items and inconsistencies in scales to emerge. This is of great importance for the further development and refinement of the CAQ.

In summary then, the CAQ can be considered a potentially appropriate instrument for the assessment of attachment in middle childhood. This preliminary analysis has shown encouraging results for the validity of this instrument and has been instructive in identifying its weaknesses that will be further considered. Although several areas need improvement, a great stride forward has been made with incorporating behavioral analysis into the coding of interviews, which was identified as one of the limitations of the CAI coding system (Target et al., 2003; Shmueli-Goetz et al., 2008). The items included in the CAQ assessed a constellation of features for each attachment classification which included behavioral, emotional, and cognitive aspects. Aside from a few problematic items (only one of which was

related to behavior) all four scales of the CAQ showed consistency, thereby tapping the same overall construct. This indicates that among other qualities the CAQ was able to assess behavioral aspects of different attachment classifications, thereby achieving one of its purposes. The CAQ is, to the knowledge of the author, one of the few attachment instruments which highlights that attachment involves an interaction between mental representations and behavior. Mental representations are formed as a result of experiences with the caregiver, which in turn create expectations and affect behavior when the attachment system is activated. Therefore, development of the CAQ classification system provides the ability to assess the behaviors that emerge when the attachment system is activated through the direct questioning of the CAI.

A limitation of the current study was that an insufficient number of cases have been coded so far using the CAQ to provide for full psychometric analysis to examine its suitability in the assessment of Child Attachment Interviews, this will be addressed in the subsequent chapters which focus on testing the reliability and validity of the CAQ. An additional limitation was including MT, one of the developers of the CAI, as one of the raters in the current study and AT, an individual that had completed CAI training and reliability testing. Doing so could have potentially introduced bias because there may be a tendency for MT and AT to think and code in the same terms as the ordinary CAI classification system and consequently the results may indicate a strong relationship between the CAQ and CAI attachment classifications indicating that the two systems are measuring the same construct which may actually be inaccurate. Hence including the ratings of MT and AT may cause an inflation of the apparent validity of the CAQ. On the other hand, the strength of this approach was that the CAQ was tested with individuals that understand child attachment, the CAI and how it works. This approach may have reduced validity in one respect, but enhanced it in another. Further discussion on how to address this matter in future studies will be included in Chapter 9.

4.5. Pilot Study 2: Training Naïve Coders to Use the CAQ

This second pilot study was conducted for two reasons. Firstly, to test the training for the CAQ, requiring limited formal teaching and supervision that could be utilized by individuals without knowledge of attachment or CAI training. Secondly, to assess the reliability of the CAQ with independent, naïve coders having used this

new training. It was expected that coders would reach good agreement on both the categorical and item level with the author. If this were achieved the current training would be considered adequate and coders would proceed to coding another set of eleven cases.

4.5.1. Methods.

4.5.1.1. Participants.

4.5.1.1.1. Children.

For this second pilot study, two participants were extracted from the large outcome standardization study at the AFC, one from the normal (Secure interview) and one from the clinical sample (Insecure interview), as described in Pilot Study 1. The purpose of this was to provide raters with practice and the author with feedback about codings from both types of populations.

Both participants were females, the one from the normal population was 9.5 years old from a white middle class family. The one from the clinical population was 8.36 years old, Asian middle class from a single parent household.

4.5.1.1.2. Raters.

The coders for the present study were recruited from psychology undergraduate and postgraduate students at University College London. In total 12 individuals were recruited, of which 10 were female and two were male, four were undergraduate students, and eight were postgraduate students. All of the coders took part voluntarily.

The following selection criteria for the coders were applied: (a) did not have extensive knowledge about attachment theory, (b) had not completed the CAI training or training for other attachment instruments, and (c) were not involved in the development of the CAQ. The purpose of using these criteria was to have a sample of coders that represented the target population of users that the CAQ was addressing. In subsequent chapters, the coding system of the CAQ and CAI will be compared, so for this reason it was deemed necessary to use coders that were not familiar with the CAI as this could potentially confound the results and these individuals could be considered as having more advanced knowledge of attachment, thus not allowing the author to assess the effectiveness of the CAQ training.

4.5.1.2. Measures.

4.5.1.2.1. Children.

As described in Pilot Study 1.

4.5.1.2.2. Raters.

As described in Pilot Study 1.

4.5.1.3. Procedure.

4.5.1.4. Administration.

As described in Pilot Study 1.

4.5.1.5. Raters and coding process.

The author gave each of the coders the *CAQ Training I*, containing the following (section B.2 of Appendix B):

A reading list containing basic literature on attachment intended to provide coders with a general overview of this subject area.

The *Child Attachment Interview (CAI) Protocol, Version IV* (Target, Fonagy, Shmueli-Goetz, Datta, & Schneider, 1999). The purpose of giving this to the coders was to familiarize them with the format of the interviews that they would be watching.

4.5.1.6. Instructions on Q-sorting.

A CD containing (a) the videos and transcripts of the two cases they needed to code and (b) an Excel file to input their Q-sort distribution on a template that would allow for the data to be processed by the author to yield the attachment classification of each child.

The coders were instructed to treat this as a coding system for CAI interviews that required no assistance or formal training. The author was available to answer questions, however they were encouraged to try and code the cases on their own by following the instructions provided in the information packet.

All coders were instructed to code the cases in the same order to control for order bias. The completed Q-sorts were sent by each coder to the author using the provided Excel file.

The ratings for the two cases Q-sorted by each coder where entered by AT into another Excel file that would yield scores for each of the four attachment classifications and also an overall attachment classification for each cases.

Subsequently the author would use this data to assess reliability. If raters achieved 100% agreement on categorical judgment and 70% or higher agreement on placement of each item (continuous variable) with the author, they would be able to proceed to coding the next set of 11 CAI cases.

4.5.2. Data analysis.

Interrater reliability was assessed by comparing the ratings assigned by judges at the item and category level by using two-way random model intraclass correlations (ICC2; Bartko & Carpenter, 1976; McGraw & Wong, 1996). Analysis of reliability for classifications was further assessed firstly, by calculating agreement of judges with the author (AT), considered the gold standard; secondly, by calculating percentage of agreement between coders for attachment classification; thirdly, by calculating Cohen's kappa statistic for two-way classifications (i.e. Secure or Insecure) and fourthly, by calculating Spearman rank-order correlations between the classification rankings of judges and AT.

4.5.3. Results.

4.5.3.1. Interrater reliability for CAQ items.

Based upon ratings of the 80 CAQ items by the twelve judges, agreement for the Secure and the Insecure cases indicated an ICC of .47 and .21, respectively. Both findings are indicative of poor reliability and hence were considered unacceptable.

Taking the correlations of individual judges with AT and calculating the average correlation using the Fisher's *r* to *z* transformation, results indicated that correlations for the Secure case ranged from .20 to .67, with an average correlation of 0.51. For the Insecure interview, correlations ranged from .01 to .53, with an average correlation of 0.32 (see Table A-3 in Appendix A). The findings indicated that coders were unable to rate individual items reliably, for both cases.

4.5.3.2. Interrater reliability for CAQ scales and classifications.

It is possible that although individual items were not coded consistently by the raters there was agreement in relation to the attachment classification (categories). This is because it could be that although raters did not place each item in the same pile they would place categories of items similarly (i.e. they would place Secure items in the higher categories for a Secure case even though the specific

Secure item they placed there may differ between coders). Hence, in those cases there should be an agreement between AT and the coder on category assignment.

For the Secure case the level of agreement on categories was perfect (100% of the coders rated the case as Secure). Unfortunately, there was less agreement in relation to the Insecure case (which was Preoccupied according to AT's four-way classification). Only 42% of the coders (5/12) coded the case as Preoccupied, whilst the rest were evenly split between coding the case Secure, Dismissing, or Disorganized. As this was not a consistent error, it likely reflected the scale being unreliable. Overall, only 4 coders (33%) agreed with AT on the attachment classification of both cases (i.e., had a 100% agreement with AT's attachment classification for both cases). When reducing the coding to Secure and Insecure categories (two-way classification), only 2/12 (16%) of the coders thought this Preoccupied case to be Secure.

Computing a Cohen's kappa coefficient based on the number of coders who correctly identified the Secure case as Secure and the Insecure case as Insecure, the obtained value was a satisfactory 0.78. This is however deceptive because the level of agreement was obtained on only two cases and the ratings are not independent of each other (raters coded both cases).

Although the results indicated that there was not an adequate agreement between the items and poor agreement between the classifications assigned to the interview, there still might be a good agreement between raters on the mean ratings in the four CAQ scales. To assess if classification ranking agreed for each of the cases rated, average ratings for each of the CAQ scales for each of the coders were calculated and then an ICC was computed for these ratings between coders. For the Secure case this turned out to be reasonable. Single rater ICC for this case was above .82, whether AT was included or not in the calculation. However, for the Insecure case, the ICC was less favorable. The single coder reliability estimate was unacceptable with an ICC of .18 barely reaching statistical significance.

Finally, the correlation between raters on the rank order of classifications was explored. This analysis aimed to test whether AT's rankings agreed or not with the rankings of the other coders (e.g. for the Secure case AT's ranked attachment classifications in the following order: Secure, Preoccupied, Disorganized and Dismissing, and aimed to test whether the other coders ordered the attachment classifications in the same manner or not). Spearman rank order correlations were

calculated between AT and each of the raters, and Fisher's *r* to *z* transformations were applied before the correlations were averaged. The mean rank correlation of coders with AT for the Secure case was .40, ranging from -.40 to .80 and for the Insecure case was .48, ranging from -.40 to .80. Both findings were unacceptable and in both cases there were negative correlations between the rank orders.

In conclusion, taking these analyses together, there was no support for using this version of the CAQ training. It should be noted however that there is a promising aspect in that the agreement between coders and the AT was high for the Secure case in its Secure versus Insecure distinction.

4.5.4. Discussion.

The findings of interrater reliability reported above were not promising. Overall, the results indicated that this training was inadequate in preparing coders for using the CAQ to assess attachment classification of individual children. The reading list and manual provided proved insufficient for individuals lacking attachment knowledge and prior experience of working with children in this age group. Moreover, subsequent interviews conducted with raters indicated that an additional requirement during recruitment of judges is that English is their native language. In particular in a follow up interview with one of the raters, whose native language was not English, although she had good colloquial spoken English and comprehension with adults, she unexpectedly struggled to understand what children were saying. Therefore, this affected her ability to adequately complete the Q-sort.

In the first pilot study conducted, the results of the Q-sort distribution were recorded in a hand written table and then transferred to an Excel file by AT to calculate scores for each attachment classification. As this was as this being a time consuming task and to prevent coders from dropping out of the study because of this, they were asked to provide their distribution in an Excel file. However, when raters were transferring the data to the Excel file, they made typing errors and in some cases items were not entered at all, were entered twice or the number was typed incorrectly, thereby yielding incorrect results for attachment classifications. In this event it was necessary for the author to contact coders asking them to provide clarification about these errors, which proved viable because in all instances the coders had also recorded this information by hand and they easily clarified the discrepancy. However, it was evident that this system of providing data to the author

was insufficient and with a larger sample of interviews to code, the amount of error introduced by this method would be unacceptable.

Another issue that arose was that coders were unable to see the results of their Q-sort, meaning that they did not know what attachment classification they had assigned to each child. They had to wait to receive feedback. This occurred because the original Excel that was developed to calculate the results derived from the distribution was too complicated for coders to comprehend and use without making mistakes that would impact results. A simple syntactical error concerning a comma or period, would result in incorrect scores. In addition, it was evident that some coders were unfamiliar with Excel all together and lacked basic knowledge about using this program, such as using multiple worksheets in the same file.

With this feedback and observations, it was quite evident that the current CAQ training was not meeting its main objectives of providing a new classification system to the CAI that would require limited training, but most disappointingly it was not in a format that could yield attachment classifications for users without requiring the assistance of the author. If an individual is to use the CAQ to assess attachment, then they certainly would want to results readily available in a user friendly format.

4.6. Conclusions

To conclude, it was evident from the poor reliability results and feedback of this pilot study that the current training was insufficient and needed to be modified or redesigned, in such a manner as to make it reliable and also to address the data transfer and calculation issues identified and discussed previously. Therefore, this study was terminated and coders did not proceed with coding the next set of 11 interviews as initially planned. The issues identified will be addressed in subsequent chapters.

Chapter 5: Development of CAQ Training System II

Similarly to the process followed by Block (2008), after the initial collection of CAQ items was created and considered by a team of attachment experts to reflect the range of relevant behaviors observed in a wide range of children being interviewed, the Q set was "frozen" at that given point. Although items had been selected to reflect the underlying attachment motivations and conflictual behaviors (such as approach-avoidance), they had not been designed to map onto the CAI coding manual itself. The effort was to represent the relational behavior seen in a range of interviews, with an eye to varieties of response to attachment issues. Similar to Block's experience, it was expected that in the long run, collaboration with others and extensive empirical findings would be instrumental in the further development of the item set within similar principles: highlighting what emerged as patterns of response to the attachment topic and interviewer rather than listing criteria of existing attachment classification manuals. The feedback and suggestions of participants was considered important, helping identify weaknesses, ambiguities, and limitations. The current chapter will address the limitations identified in the previous chapter and will document the further development of the CAQ Training.

As explained in Chapter 4, the results and feedback from the coders made it clear that the current CAQ Training was not functioning as intended. It was unsuccessful in training naïve coders without prior knowledge in attachment to utilize this instrument and assess attachment classification in middle childhood using CAI videos. As explained previously, since it was not deemed necessary to focus on further development of Q-items, the author turned attention to further developing training of the CAQ.

At this point the best approach seemed to be to return to the drawing board and address the issues of training at multiple levels.

First, a manual was written, where the initial Q-sorting instructions were maintained, but around this a more detailed information structure was created that would constitute a comprehensive manual. This manual would address the issue of making the instrument available to naïve coders by providing basic information about attachment classifications, explanations, and examples for CAQ items and information on using the program.

Second, a training DVD with four interview excerpts and relevant transcripts of children considered to be exemplary of each attachment category accompanied the manual, so as to supplement the attachment classification information provided. It was expected that piloting of the CAQ Training System II would yield acceptable agreement between AT and a naïve coder.

Third, a computer program was developed to permit more efficient data collection and transmission reducing the confounding variable of human error when entering the data into the Excel file previously used. The program was designed to provide a user friendly tool that would allow the coder to have immediate access to the attachment classification results of each interview coded and facilitate data sharing between the author and the coders.

5.1. CAQ Coding and Classification Manual

A vital part of redesigning the CAQ Training was the development of a comprehensive manual, created with the aim of producing a training system that could be learned and applied independently by each coder and without requiring the assistance of a trainer. Information for designing the manual were drawn from the feedback provided by the follow up interviews with the coders in Pilot Study 2 described in Chapter 4, from the *Attachment Q-Set (Version 3): Items and Explanations* by Waters (1987b), a document available online that provides a list of the items contained in the Attachment Q-set with information concerning each of the 90 items for training purposes, and with material adapted from the *CAI Coding and Classification Manual Version V* (Shmueli-Goetz et al., 2004) and the formal training of the Child Attachment Interview available at the Anna Freud Centre, with the permission of the developers.

5.2. CAQ Computer Program

Development of a computer program was an important step in redesigning the CAQ Training System. Difficulties with data collections seemed to be problems that could easily be addressed with the technological advancements available today. Further, it was considered important that results should be immediately available to coders upon completing their Q-sort in a straightforward user friendly manner. Considering that this instrument was developed with the aim of providing a measure

that could easily be implemented in a research or potential clinical setting without specific training, analogously the results should be available without further knowledge being required. Moreover, the computer program would provide a means to automatically generate results and data in a predetermined template that would be the same across all researchers. This would enable researchers to easily exchange commensurate data, ready for entry into statistical analysis programs by simply using the copy and paste function. Overall the development of this program was expected to address the limitations identified in Chapter 4, and enhance the usefulness of the CAQ as an instrument for coding and classifying attachment in middle childhood. The subsequent sections of this study are quite technical, however this format was deemed necessary to convey the various stages of development in a concise and clear manner.

5.3. Study A: Development and Testing of CAQ Computer Program

5.3.1. Aims and objectives.

It is increased interest in Q-sort methodology over the past two decades that has resulted in the development of computer programs to facilitate administration and data collection. A few individuals have made noteworthy attempts to create such programs.

A review of available or in-use computer programs (see section C.1 of Appendix C) indicated that to the knowledge of AT, a program suitable for developing software for CAQ did not currently exist. As a result it was deemed necessary to develop a new computer program. Although it would be ideal to develop a program to automate the entire Q-sort process of the CAQ, calculate results and export data, it was beyond the scope and time frame of this thesis. Therefore, the author developed a CAQ program that would automate the process once the Q-sorting of items had been manually completed and improve the initial version of the CAQ Training.

The specific problems that needed to be addressed were: (a) to diminish the errors introduced when the data was manually entered into a Microsoft Excel template file, and (b) to reduce the margin of error and difficulty involved in calculating the attachment classification.

Some of the errors that were identified when the CAQ items were manually entered into Excel were leaving a cell blank, and entering duplicate or incorrect items. Since some items could be entered more than once or incorrectly, other items were inevitably excluded. In most cases if the coder did not keep a separate record, this could only be corrected if the rater repeated the Q-sort for the particular interview. This created problems in calculations, data analysis, data sharing, and overall time management of any particular study. Lastly, most of these errors were not detected until data analysis was underway.

As explained in Chapter 4, once the grid was manually completed, the data was sent to AT to calculate the attachment classification. Creating this computer program would facilitate the process of calculating the attachment classification of each child, once the rater had completed the Q-sort of a particular interview.

Simplifying the coding system would also facilitate and reduce the training needed for the CAQ. Any rater without training could enter the data and yield the corresponding attachment classification. This program would also allow the user to create electronic files that could easily be saved and retrieved in the future, whereas hard copies could easily be lost or destroyed. The data could easily be exported to allow for data sharing and analysis among professionals and researchers. Lastly, this program would prevent the rater from trying to impose an attachment classification decided a priori to completing the Q-sorting.

5.3.2. Methods.

5.3.2.1. Participants and materials.

A computer programmer was engaged to write the Visual Basic code for this program. AT planned, supervised, and participated in the project in its entirety. A psychology post graduate student (C1) assisted in testing the final two versions of the program. The hardware used for this program was an IBM Compatible Computer, and 2 DELL laptops. The software used to create this program was Visual Basic 6.0 on Windows XP.

5.3.2.2. Procedure.

Development of the CAQ computer program went through six stages until reaching its final version, CAQ 1.0.7. This trajectory is described in detail in section C.2 of Appendix C. During the multiple developmental stages of the CAQ computer program, testing was carried out by AT and the computer programmer. During

testing phases AT and the computer programmer attempted to take into consideration every possible action (aside from the typical functions of the program) that a user could make to find all the errors and "glitches" that could arise. The main issues are explained in section C.2 of Appendix C to allow the reader to track the testing and developmental process of the CAQ program.

Testing of version 1.0.6 was carried out by C1. The program was installed on a laptop with Windows XP and written instructions on using the program were provided. The only assistance provided by AT was that the she was present when the program was installed to ensure that installation ran as expected. Further assistance and/or training were not offered at this point because the CAQ program was developed to require limited training and be user friendly. To test the program, C1 was given CAQ data by AT, to independently enter into the program. As explained in section C.2 of Appendix C, certain problems were identified for this version. AT and the computer programmer discussed and agreed how to address these issues. The necessary modifications were made and C1 was given the final version of the program, 1.0.7 to test it the same way as described above.

5.3.3. Results.

During testing phases of the CAQ program, Q-sortings of CAIs already calculated using the existing CAQ Excel file were used. As expected the program was able to detect errors that were not noticed when data was entered manually into an Excel file by participants, such as duplicate and missing items in the Q-sort grid.

Feedback from C1 indicated that version 1.0.6 had problems, which were addressed in the final version, and version 1.0.7 worked as expected without any errors or difficulties. C1 was able to input the Q-sortings of 40 CAIs without any problems. The program yielded results that were exported into Excel files and then used for data analysis by AT. Also Excel files with the exported data were exchanged without any difficulties between AT and C1.

The problems of the original Excel version of the CAQ described in previous sections were overcome, and all the errors encountered during the development phase were corrected. The CAQ computer program seemed to provide a well working tool to calculate CAQ scale scores and assign attachment classifications.

5.4. Study B: Pilot Testing CAQ Training System II

The general modifications made to the first version of the CAQ Training were the development of a comprehensive manual and computer program. The previous reading list was discarded because it was considered too time consuming for participants. Instead all the necessary information would be included in the newly developed manual accompanied by a training DVD. The CAI protocol was still provided, the information sheet with *Instructions on Q-Sorting* was modified and integrated into the manual, the CD with the Excel spreadsheet and interviews was considered redundant. The Excel spreadsheet was instead replaced by the CAQ computer program. The CAQ Training System II was pilot tested to assess its ability to train a naïve coder (an individual with limited knowledge in attachment) to achieve reliable results.

5.4.1. Methods.

5.4.1.1. Participants.

5.4.1.1.1. Children.

The current sample of children comprised of a subsample of 11 children used in the first pilot study of Chapter 4 for training and reliability assessment between AT and MT, and the sample of children used in the second pilot study of Chapter 4. Table A-58 summarizing the samples used across studies and showing the degree of overlap can be found in Appendix A.

5.4.1.1.2. Raters.

The psychology post graduate student (C1) mentioned in the previous study also participated in the current one. It is important to clarify that for the purposes of assessing the CAQ, C1 was still considered naïve, although she participated in the previous study. This is so because she only took part in testing the computer program and did not receive any training involving knowledge of attachment. Her only exposure was reading the content of CAQ items as she tested the program, but she was not provided with any information about the attachment classification framework underlying these items, hence, her characterization of being naïve is considered acceptable.

5.4.1.2. Measures.

5.4.1.2.1. Children.

As described in Chapter 4.

5.4.1.2.2. Rater.

C1 was given the CAQ Training System II consisting of the CAQ Manual, the CAI Protocol, a CD to install the CAQ program, and a DVD with four short video clips displaying a characteristic video segment of each attachment classification.

5.4.1.3. Procedure.

5.4.1.3.1. Administration.

As described in Chapter 4.

5.4.1.3.2. Redesigning of the manual.

The various sections of the manual are described below. For a complete version of the manual see section B.3 of Appendix B.

5.4.1.3.2.1. Attachment classifications.

Feedback from coders participating in Pilot Study 2 of Chapter 4 indicated that basic information about each attachment classification was necessary to familiarize them with the actual task at hand and provide background information. To achieve this, sections of the CAI manual describing the types of attachment classifications were adapted and included in the CAQ manual.

5.4.1.3.2.2. CAQ items explained.

For this section, the approach of Waters (1987b), mentioned previously, was used as a springboard for ideas. Providing information about each item was considered useful. Waters mainly chose to do this by providing a rationale for each item, however this did not seem like it would be the best approach for effectively explaining each item to the coder. Instead, excerpts of interviews as used in the CAI manual (Shmueli-Goetz et al., 2004) seemed more relevant because from conversations with the coders, the author found that the most effective way to communicate information to the rater was by providing examples (excerpts) from children's narratives. When providing theory to explain an item to a coder, it was more difficult for the person to understand, since he/she did not have prior knowledge in attachment. However, when a real life example was provided by verbally reenacting an excerpt from an interview, the information seemed to be

conveyed more efficiently. Therefore, it was decided that for each item (as relevant), excerpts from interviews would be included as examples, clarifying each item to the coder.

The author meticulously sifted through all of the CAI videos and transcripts available (divided by classification) and chose examples that were most characteristic of the item at hand. In the beginning the author tried to use very brief examples, however retrospectively and with feedback from MT, it was obvious that the information the excerpt was intended to convey was not fully comprehensible by the reader. The examples were too brief and out of context, and therefore the aim was not achieved. To rectify this, the author went back to the interviews and included larger excerpts which inevitably made the manual longer. For items that were self explanatory, such as Item 61, "The interview is usually long (more than 40 minutes, not accounted for by interruptions, additional caregivers)," examples were not included. For items that seemed to require additional explication, some supplementary information was provided with or without an example, as relevant. For example, Item 1**, "**Appears frightened of the interview situation: child is cautious, careful, wary in his/her approach to the interview and interviewer; shows signs of modest distress that are not specifically linked to a topic in the interview;" was supplemented with the following notes: **"**Signs of modest distress include: child avoiding eye contact with the interviewer; quick glances at the interviewer that may seem frightened and/or anxious; child looks uncomfortable (not related to boredom) and anxious; non-verbal signs of anxiety." Also, as there were variations in the way the behavior described in a particular item could be manifested, where deemed necessary, more than one example was included. Lastly, with feedback from MT, any examples considered inadequate for explaining an item were replaced.

5.4.1.3.2.3. CAQ instructions.

Only the first three steps provided in the initial version of training were retained in this current version, while the rest of this section was revised. It now included information about entering data using the CAQ program and important notes instructing the coder to focus on behavior at the macro level when ranking items, but brief episodes of bizarre behavior should be focused upon at the micro level.

5.4.1.3.2.4. CAQ Program instructions.

Instructions were also included about how to install the CAQ program and utilize it to record the Q-sort distribution and retrieve results concerning the scores and attachment classifications of each child.

5.4.1.3.2.5. CAQ DVD.

A DVD was provided as supplementary material to the manual. It contained four short video clips displaying a characteristic interview segment of each attachment classification (Disorganized, Secure, Dismissing and Preoccupied). In conjunction with the section of the manual containing information about each attachment classification, it was considered that these short clips would provide adequate background information for raters lacking knowledge in attachment.

5.4.1.3.2.6. Coding.

Instructions were provided asking C1 to rate the same two interviews used in Pilot Study 2, Chapter 4. The coder was asked to work independently without assistance from AT, since the CAQ Training System was intended to function as a standalone system that would not require further instruction.

C1 was instructed to export results of the two cases and send these to AT to assess reliability. If 100% agreement was achieved on categorical judgment and 70% or higher agreement on placement of each item (continuous variable) with AT, C1 would proceed to coding the next set of 11 CAI interviews. Again results would be exported and sent to AT to assess reliability. Reliability of this set would be conducted by using the ratings and classifications of AT as the gold standard. If C1 provided the correct categorical judgment for nine out of 11 cases and 70% or greater agreement is achieved for item placement, the current Training System would be considered adequate. It would then be revised according to the feedback of this study and tested on a new sample of coders.

5.4.2. Results.

5.4.2.1. Quantitative.

5.4.2.1.1. <u>Classification agreement and interrater reliability for CAQ items.</u>

Assessment of interrater agreement for the main classification indicated perfect agreement (100%) between AT and C1 across the main classifications of the two cases. In addition, taking the correlations of the two judges and calculating the average correlation using Fisher's *z* transformation indicated an average of .78 in

placement of the 80 items. For the Secure and Insecure case, the overall correlation was .78 and .79, respectively. Although criteria for reliability was met and the coder was able to proceed with coding the next set of 11 cases, as a precautionary measure and to identify any potential ambiguities, the Q-sorts of the two coders were compared and items with a discrepancy of two or more intervals were discussed (Block, 2008). C1 then proceeded with independently coding the next set of 11 interviews.

5.4.2.1.2. Interrater reliability for CAQ items.

Two-way random ICC, single measures were computed across the 11 cases between AT and C1. The ICCs ranged between .65 and .74, with an average ICC of 0.71, indicating an overall good agreement at the item level.

5.4.2.1.3. Interrater reliability for CAQ scales.

Two-way random ICC, single measures were computed across the 11 cases, between the two coders for the four attachment scales. As shown in Table 5-1, all the ICCs were higher than .86 falling in the excellent range. This result indicated that the four scales were reliably coded across the cases.

Table 5-1. Intraclass Correlations for the 11 cases (95% confidence interval).

Classification	ICC (CI)
Secure	.91 (.71, .98)
Dismissing	.92 (.74, .98)
Preoccupied	.87 (.59, .96)
Disorganized	.87 (.58, .96)

5.4.2.1.4. Agreement between coders on classifications.

As shown in Table 5-2, there was almost perfect agreement in both the main and secondary attachment classifications, indicated by a percentage of agreement of 91% for both the main and secondary attachment classifications. It is worth highlighting that for the single case that had Disorganized attachment, both raters agreed on the secondary attachment classification. The high agreement between raters was also evidenced by a kappa of .87 for the main and .86 for the secondary attachment classification.

Table 5-2. Frequency Distribution of Main Attachment Classification for each Rater (N = 11).

Classification	AT	C1
Secure	4	5
Dismissing	4	3
Preoccupied	2	2
Disorganized	1	1

5.4.2.2. Qualitative.

Feedback from the coder and observations from the study indicated that the following issues needed to be addressed:

5.4.2.2.1. CAQ items explained.

The current format of examples was confusing due to lack of consistent formatting to indicate when the child and when the interviewer were speaking.

5.4.2.2.2. CAQ instructions.

The coder was unclear about the importance of rank ordering items within each column. It was clarified that rank order within each category was not important (Prasad, 2001) and a coder should freely shift the items within the distribution as needed to achieve a configuration that was representative of the interview (Block, 2008). Both of these points were simple clarifications, but they seemed to bear great importance for clarifying the Q-sorting process to the coder and explaining some of the discrepancies in items placement. Necessary modifications have been made to the manual to incorporate this information.

5.4.2.2.3. CAQ program instructions.

Instructions pertaining to version 1.0.6 of the CAQ program were included in the current manual, however the problems identified during this study were addressed and a new version of the program was created, as detailed above. Hence, the instructions section of the CAQ program will need to be modified to correspond to version 1.0.7. Overall feedback indicated that with the instructions provided, the program was straightforward and easy to use.

5.4.2.2.4. CAQ DVD.

The interview segments provided did not yield sufficient information for the coder. In discussions with C1, it was evident that a richer source of information was needed to provide knowledge of the four types of attachment classifications.

5.4.3. Discussion.

The aim of the current study was to redesign and pilot test the training of the CAQ to address the inadequacy of the first version to prepare coders to reliably use the CAQ in order to assess the internal working model of attachment relationships in middle childhood using the interview protocol of the CAI. This was achieved by creating a *Training System* that consisted of a comprehensive training manual with explanations of items, a DVD with four excerpts considered exemplary of each attachment classification, and the CAQ computer program. The promising results of pilot testing the CAQ Training System II provided preliminary support that the target for which it was designed had been achieved and provided a solid basis for further studies assessing the reliability of naïve coders, prepared in this way, to use the CAQ.

Regarding the CAQ computer program, after multiple versions, a well working tool was now available and was considered an important improvement to the CAQ Training. This proved to be the case because it provided the rater the ability to calculate scores on each scale, assign attachment classification to each interview, create electronic files, and export both the raw data and classifications to an Excel file for further data sharing and analysis. In addition, the program was developed to require limited instructions and was overall self-explanatory. Further, using a computer program offered a more objective approach because it was not possible to interfere with the calculation of CAQ scores or assignment of attachment classification.

As shown in Study 1 of Chapter 4, the CAQ achieved reliable results between the author and the developers of the CAI, however the absence of a computer aided tool for recording, calculating, and collecting data was an oversight that was not identified at the time, but emerged in Study 2 of Chapter 4 when a group comprised of naïve coders was used. The results of the latter study were unsatisfactory in terms of reliability, but instrumental in identifying this important limitations of scoring the CAQ.

One aspect of creating a training and coding system with greater usability to researchers and potentially clinicians was achieved by the development of the CAQ computer program, however, limitations still exist. The CAQ computer program needs further development in order to be used extensively. For example, as

mentioned previously, the program does not currently work on Apple computers. It was impossible to identify every possible event that would cause problems for the program and as with all software modifications are constantly needed. Feedback is encouraged by users and every effort will be made to rectify any problem that may be identified. However, the current version of the program was considered satisfactory to meet the needs of the work to be reported in this thesis.

Overall the findings of this study concerning the adequacy and reliability of the CAQ Training System II were encouraging. The naïve coder with limited attachment knowledge was able to use the new training materials and CAQ computer program to code and classify CAI videos. Agreement between the author and the naïve coder was very high for both main and secondary attachment classifications as was interjudge reliability on the CAQ scales across all cases. In addition, interjudge reliability for CAQ items was good suggesting that the naïve coder was able to use the items of the CAQ reliably across cases.

Feedback from the naïve rater during this study indicated that the instructions in the manual needed to be modified, making clear that rank ordering items within each category of the distribution was not necessary. Also, it was evident from the questions of the naïve rater that the four excerpts on the DVD were not sufficient in providing adequate information about each attachment classification. This matter was rectified by providing the naïve rater with the complete CAI video of each child considered exemplary of the four types of attachment classifications. Seeing the full version of the interview providing a richer source of information and the DVD will be amended in the next version of the CAQ Training System, explained and tested in the next chapter.

5.4.3.1. Limitations.

A limitation of the current study is that it only included one rater. Test piloting with only one rater was deemed necessary because it was very difficult to recruit and retain participants to complete a large number of Q-sorts. This limitation will be addressed in the next chapter, where a sufficient number of participants were used to properly assess reliability of the CAQ, which is after all the main target of the training system. This will elucidate if this level of training is adequate to achieve reliable results or if more extensive training is needed.

5.5. Conclusions

Overall then, the Training System (a complete array of tools) has shown considerable strength in acting as facilitator to using the CAQ as a new coding and classification system for middle childhood. Having achieved this, the reliability and validity of the CAQ need to be assessed, themes that will be taken up in the next and subsequent chapters.

Chapter 6: Development of CAQ Training System III

As indicated in the previous chapter, the pilot testing of the CAQ Training System was promising indicating that using the new system approach and with the current level of training, a naïve judge without extensive knowledge in attachment could reliably use the CAQ to code and classify attachment in middle childhood. Modifications for the CAQ Manual and Training DVD identified previously and the development of a secure website were implemented to create the third version of the CAQ Training System, utilized and tested in the current chapter. Further, assessment of the reliability and validity of the CAQ was undertaken in the current chapter using two separate groups (Group A and B) of naïve coders. It was expected that both groups of coders would demonstrate satisfactory reliability and the CAQ items and scales would provide evidence of validity.

6.1. Methods.

6.1.1. Participants.

6.1.1.1. Children.

6.1.1.1.1. Group A.

The current sample was comprised of a subsample of 11 children used in the first pilot study of Chapter 4 and the pilot study of Chapter 5. The degree of overlap of the samples used across studies is summarized in Appendix A, Table A-58. A second subsample of 23 children was randomly selected from the normal sample of the larger AFC study with children recruited from the Manchester primary school mentioned in Chapter 4 and from three schools in London.

To achieve adequate power for subsequent data analysis, the number of raters and cases was determined by using the model developed by (Bonnett, 2002) to achieve an intraclass correlation of 0.8, $\alpha = 0.05$, $\beta = 0.2$, a sample of four judges and 31 cases was adequate.

In addition, the sample was selected almost proportionately to the percentages of each attachment classification observed in the general population. As indicated by a meta-analysis conducted by Van IJzendoorn, Shuengel and Bakermans-Kranenburg (1999), these percentages are 62% Secure, 15% Dismissing, 9% Preoccupied, and 15% Disorganized.

With the above criteria, the present study included a sample of 34 children ranging from 7.3 to 12.5 years of age (*M* = 9.8, *SD* = 1.2), with an equal percentage of males and females, predominantly white (82%) from middle class (79.4%) families. The demographic information of the sample is displayed in Table 6-1.

Table 6-1. Demographic Information about the Sample.

Demographic Variables	Normal Sample (*N* = 34)
Age (Years)	*M* = 9.8 (*SD* = 1.2)
Range	7.3 - 12.5
Females	17 (50%)
Caucasian	28 (82%)
SES Middle Class	27 (79.4%)
Working Class	7 (20.6%)

6.1.1.1.2. Group B.

The current sample was randomly selected from the normal and clinical samples of the larger AFC study with normal children recruited from the Manchester primary school mentioned in Chapter 4 and from three schools in London and clinic referred children recruited from three London specialist child mental health clinics. The overall sample of the present study included a sample of 35 children ranging from 7.1 to 13.2 years of age (*M* = 9.9, *SD* = 1.37), with almost equal numbers of males and females, predominantly white (82%) from working class (66%) families. The demographic information of the sample is displayed in Table 6-2.

Table 6-2. Demographic Information of the Sample.

Demographic Variables	Normal Sample (*N* = 35)
Age (Years)	*M* = 9.9 (*SD* = 1.37)
Range	7.1 - 13.2
Females	18 (51%)
Caucasian[a]	27 (82%)
SES Middle Class[b]	11 (34%)
Working Class	21 (66%)

[a] Ethnicity data missing for 2 children. [b]SES data missing for 3 children.

6.1.1.2. Raters.

6.1.1.2.1. Group A.

The coders for the present study consisted of a diverse group of four individuals. Two were post graduate students in psychology (C1) and education (C3) and two were teachers at the primary (C4) and secondary level (C2). All of the coders took part voluntarily. Criteria for the coders were the same as mentioned in Pilot Study 2 of Chapter 4, with the addition of English being their native language (addressing the limitation identified in that same pilot study).

6.1.1.2.2. Group B.

The coders for the present study consisted of two postgraduate psychology students (Coder 5 (C5) and Coder 6 (C6)).

6.1.2. Measures.

6.1.2.1. Children.

As described in Chapter 4.

6.1.2.2. Raters.

Each rater was given the CAQ Training System III consisting of the revised CAQ Manual and DVD, the CAI Protocol, and log in credentials for the CAQ website to begin their training. No further materials were provided, as everything was now available electronically. Details about the modifications are described below and a complete version of the current Training System can be found in section B.4 of Appendix B.

6.1.2.2.1. CAQ Training System III.

6.1.2.2.1.1. CAQ Manual (see section B.4 of Appendix B, changes highlighted in grey)

6.1.2.2.1.2. CAQ DVD

- Since the interview segments provided in the second version of the Training were insufficient, the author decided to include the entire interview corresponding to each attachment classification along with its transcript. It was expected that this would be more effective in expanding the attachment knowledge of coders, but also providing familiarity with administration of the CAI.
- As part of the revised Training System, coders were asked to watch four interviews that would achieve the two fold task described above. This

idea was derived from the formal training of the CAI which involves watching and coding interviews from various attachment classifications. In addition, this training material would now be available online instead of on a DVD.

6.1.2.2.1.3. CAQ Website

- For efficiency a secure website was created allowing coders to work remotely. Permission was obtained from the AFC to include the videos and transcripts and a disclaimer agreed with MT was included (see section E.10 of Appendix E).
- Anticipating one of the future developments of the CAQ program and similar to other Q-sort researchers (e.g., Webler et al., 2009) the CAQ now required each coder to provide qualitative information about their Q-sorting. Although follow up interviews are most helpful, this was a way to get feedback immediately following the sorting of each interview, information often forgotten by the time an actual interview was scheduled. The brief questionnaire was intended to provide feedback relevant to each case and possibly provide useful information for future revisions of the current Q-set.
- By logging into the website, coders were able to begin their training by watching the four example videos. They could also download and install the CAQ Program.

6.1.3. Procedure.

6.1.3.1. Administration.

As described in Chapter 4.

6.1.3.2. Coding.

Instructions were provided asking coders to rate each of the cases in the order they appeared on the website (to standardize order effects), independently without assistance from AT or discussion between themselves. As rating for each case was completed coders were asked to upload their results to their folder on the CAQ website.

6.2. Results.

6.2.1. Quantitative.

6.2.1.1. Descriptive results.

6.2.1.1.1. Group A.

The mean, standard deviation, skewness, kurtosis, and range of use of each CAQ item when applied to the sample of interviews are shown in Appendix A, Table A-4.

The range of use of each item (which ideally goes from 1 to 7) showed that a high percentage of items were used in a satisfactory range: 21 items (26%) were used in their full range, 33 items (41%) in a 5-point range, 22 items (28%) in a 4-point range, and only 4 items (5%) in a 3-point range. The idea that ratings of items were not restricted to a narrow band of low or high scores was also evidenced in that the mean and standard deviations of the full set of items ranged from 1.85 and 5.29, and from 0.79 to 2.13, respectively.

Based on the mean standard deviation (1.26) and the pooled standard deviation of the entire sample (0.36), *z*-scores were calculated for each CAQ item (a *z*-score above or below +/-1.86 indicates an exceptionally high or low variability). Results showed that only three items presented an exceptionally high variability (with *z*-scores ranging from 1.94 to 2.42) and no item displayed an exceptionally low variability (> -1.86). Specifically, the three items with high variability were: Item 28 ("Clear evidence of going to parent for emotional help/guidance/support...") from the Secure scale; Item 47 ("The child offers only 1-2 adjectives for the relationship with at least one of the parents.") from the Dismissing scale; and Item 61 ("The interview is unusually long…") from the Preoccupied scale. These items were also identified as displaying high variability in Study 1 of Chapter 4 and could be occurring because these items have particularly clear referents and are often ranked at the extreme ends of the sorting distribution.

6.2.1.1.2. Group B.

The mean, standard deviation, skewness, kurtosis, and range of use of each CAQ item when applied to the sample of interviews are shown in Appendix A, Table A-16.

Results showed that only one item presented exceptionally high variability (with *z*-score of 2.14) and no item displayed an exceptionally low variability

(> -1.86). The only item that presented high variability was Item 28 from the Secure scale. This item has consistently demonstrated high variability as reported in Study 1 of Chapter 4 and for Group A of the current study, it could be that this item has clear referents as mentioned previously or perhaps the wording of the item is affecting raters. Using the word "Clear evidence" at the beginning of the item could be influencing the rater to respond in a yes or no manner, thereby resulting in placement at the extreme ends of the Q-sorting distribution.

6.2.1.2. Correlation between raters of the 34 Q-sorts.

6.2.1.2.1. Group A.

Pearson product-moment correlations of the 80 items of each Q-sort were calculated between coders (AT with the four other raters and with each other). Then, correlation coefficients were normalized with a Fisher's *r* to *z* transformation, means were computed, and then those calculations were transformed back to the original Pearson's *r* using Fisher's inversion. As shown in Table 6-3 these correlations ranged from .64 to .79, with a mean correlation of .78 between AT and the coders, and .67 between coders (excluding AT). Both individual and mean correlations were strong, indicating substantial agreement between raters.

Table 6-3. Correlation Matrix between Coders across 80 Items.

	C1	C2	C3	C4
AT	.79	.78	.79	.77
C1		.67	.68	.64
C2			.70	.65
C3				.65

6.2.1.2.2. Group B.

Correlations were calculated between coders (AT with the two naïve raters and between the two naïve raters). As shown in Table 6-4 the correlations between AT and the coders was .80 and the correlation between the two coders was .70. Both correlations were strong, indicating substantial agreement between raters.

Table 6-4. Correlation Matrix between Coders across 80 items.

	C5	C6
AT	.80	.80
C5		.70

6.2.1.3. Interrater reliability for CAQ items.

ICC was computed for CAQ items, however, the results were not considered to inform assessment of the interrater reliability of the CAQ because it was not expected and is not considered important that coders assign the same exact rank to each item for each case. Thus, the findings are not reported here and can be found in Appendix A, Table A-5 for Group A and Table A-17 for Group B. Rather, interrater reliability between judges across the four CAQ scales was considered important and will be reported in the next section.

6.2.1.4. Interrater reliability for CAQ scales.

6.2.1.4.1. Group A.

Two-way random ICC, single measures, were computed across the 34 cases, between AT (gold standard) and the four raters, and among the raters excluding AT, for the four attachment scales. As shown in Table 6-5 all the ICCs were higher than .86, indicating that there was excellent agreement between raters on the four scales scores, i.e. Secure, Dismissing, Preoccupied, and Disorganized.

Table 6-5. Intraclass Correlations for 34 Cases Including and Excluding AT (Gold Standard).

	Single Measures	
Scales	Including Gold Standard (AT)	Excluding Gold Standard (AT)
Secure	.95	.94
Dismissing	.89	.86
Preoccupied	.88	.86
Disorganized	.89	.87

6.2.1.4.2. Group B.

ICCs were computed across the 35 cases, between AT and the two raters, and between the raters excluding AT. As shown in Table 6-6 all the ICCs were 0.70 and higher, indicating that there was good to excellent agreement between raters on the four scales scores.

Table 6-6. Intraclass Correlations for 35 Cases Including and Excluding AT (Gold Standard).

Classification	Single Measures	
	Including Gold Standard (AT)	Excluding Gold Standard (AT)
Secure	.97	.96
Dismissing	.93	.94
Preoccupied	.80	.70
Disorganized	.93	.92

6.2.1.5. Agreement between coders on classifications.

6.2.1.5.1. Group A.

As indicated in Table 6-7, the distribution of the attachment classification of the 34 cases was very similar between all raters, with more than 55% of the cases classified as Secure, between 15 and 23% classified as Dismissing, between 11 and 15% classified as Preoccupied, and 9 and 11% classified as Disorganized.

Table 6-7. Frequency Distribution of Attachment Classification for each Rater (N = 34).

Classification	AT	C1	C2	C3	C4
Secure	19	19	19	21	20
Dismissing	6	8	6	5	5
Preoccupied	5	4	5	4	5
Disorganized	4	3	4	4	4

There was very high agreement between raters in their attachment classification, as indicated by a median kappa of .91 for the main attachment classification and .95 for the secondary attachment classification. This was also evidenced in that for the main attachment classification kappa ranged from .85 to 1.00 and for the secondary attachment classification, it ranged from .90 to 1.00 (see Table 6-8 and Table 6-9).

Table 6-8. Concordance between CAQ Main Attachment Classifications (N =34).

	C1	C2	C3	C4
AT	.91	1.00	.90	0.95
C1		.91	.85	.86
C2			.90	.95
C3				.95

Table 6-9. Concordance between CAQ Secondary Attachment Classifications (*N* =34).

	C1	C2	C3	C4
AT	.95	1.00	.90	.95
C1		.95	.90	.90
C2			.90	.95
C3				.95

6.2.1.5.2. Group B.

As displayed in Table 6-10, the distribution of the attachment classification of the 35 cases was very similar between all raters, with 46 to 49% of the cases classified as Secure, between 29 and 31% classified as Dismissing, between 14% classified as Preoccupied, and 9% classified as Disorganized.

Table 6-10. Frequency Distribution of Attachment Classification for each Rater (*N* = 35).

Classification	AT	C5	C6
Secure	17	17	16
Dismissing	10	10	11
Preoccupied	5	5	5
Disorganized	3	3	3

Agreement between raters for attachment categorization was very high, as evidenced by a median kappa of .87 for both the main and secondary attachment classification. This was also indicated by kappa for main and secondary attachment classification ranging between .87 to .91, and .86 to .91, respectively (see Table 6-11 and 6-12).

Table 6-11. Concordance between CAQ Main Attachment Classifications (*N* = 35).

	C5	C6
AT	.91	.87
C5		.87

Table 6-12. Concordance between CAQ Secondary Attachment Classifications (*N* = 35).

	C5	C6
AT	.91	.87
C5		.86

6.2.1.6. Distribution of attachment classification and population.

6.2.1.6.1. Group A.

Table 6-13 presents the attachment classification distribution as found in the general population (Van IJzendoorn et al., 1999) and the current sample by each rater. In order to compare the proportion of children that were classified in each attachment category to the proportion of children that present those attachment types in the population, five Chi-square Goodness of Fit tests were conducted (one for each rater). Results showed that in the ratings of the five coders children of the sample did not present a significantly different distribution of attachment categories to the general population (AT: χ^2 (3, N = 34) = 1.85, p = .605; C1: χ^2 (3, N = 34) = 3.03, p = .386; C2: χ^2 (3, N = 34) = 1.84, p = .605; C3: χ^2 (3, N =34) = 0.530, p = .912; C4: χ^2 (3, N = 34) = 1.54, p = .674).

Table 6-13. Distribution of Classifications across 34 Cases (%).

Classification	Expected Normal Population	AT	C1	C2	C3	C4
Secure	62%	56	56	56	62	59
Dismissing	15%	18	24	18	15	15
Preoccupied	9%	15	12	15	12	15
Disorganized	15%	12	9	12	12	12

This analysis was not repeated for Group B because the cases coded were comprised of a mixed sample of clinical and non-clinical children.

6.2.1.7. Concordance between CAQ and CAI.

6.2.1.7.1. Group A.

Table 6-14 presents the frequencies for four-way attachment classifications of the CAQ and CAI for AT. To establish concordance between four-way classifications of the CAQ and CAI, coefficient kappa was calculated, kappa = .75. This reflects an 88% agreement between attachment classifications.

Table 6-14. Concordance between AT CAQ and CAI Main Attachment Classifications (*N* = 34).

	AT CAQ classification				
CAI classification	Secure	Dismissing	Preoccupied	Disorganized	Total
Secure	18	0	2	0	20
Dismissing	1	5	0	0	6
Preoccupied	0	0	3	0	3
Disorganized	0	1	0	4	5
Total	19	6	5	4	34

The frequencies for three-way classifications of the CAQ and CAI for AT are presented in Table 6-15. In establishing concordance between the best fitting alternative classification when Disorganized classifications were assigned for both the CAQ and CAI, kappa = .80. These results indicate substantial agreement for both main and secondary attachment classifications between the CAQ and CAI.

Table 6-15. Concordance between AT CAQ and CAI Secondary Attachment Classifications (*N* = 34).

	AT CAQ classification			
CAI classification	Secure	Dismissing	Preoccupied	Total
Secure	18	0	2	20
Dismissing	1	8	1	10
Preoccupied	0	0	4	4
Total	19	8	7	34

There was a substantial agreement between the CAQ and CAI ratings for the four other raters as well (see Table 6-16). The classification distributions of the four raters can be found in Appendix A, Tables A-6 to A-13.

Table 6-16. Concordance (kappa) between CAQ and CAI Main and Secondary Attachment Classifications.

Coder	Main attachment	Second attachment
AT	0.75	0.80
C1	0.76	0.80
C2	0.81	0.80
C3	0.80	0.79
C4	0.75	0.74

6.2.1.7.2. Group B.

Table 6-17 presents the frequencies for four-way attachment classifications of the CAQ and CAI for AT. CAI data was missing for two cases, therefore kappa was calculated using 33 cases. Concordance between four-way classifications of the CAQ and CAI, yielded a kappa of .66. This reflects a 79% agreement between attachment classifications.

Table 6-17. Concordance between AT CAQ and CAI Main Attachment Classifications (*N* = 33).

	AT CAQ classification				
CAI classification	Secure	Dismissing	Preoccupied	Disorganized	Total
Secure	16	1	1	0	18
Dismissing	0	8	3	1	12
Preoccupied	0	0	1	0	1
Disorganized	0	1	0	1	2
Total	16	10	5	2	33

The frequencies for three-way classifications of the CAQ and CAI for AT are presented in Table 6-18. Assessment of concordance yielded a kappa of .65, reflecting a 79% agreement for attachment classification. These results indicate substantial agreement for both main and secondary attachment classifications between the CAQ and CAI.

Table 6-18. Concordance between AT CAQ and CAI Secondary Attachment Classifications (*N* = 33).

	AT CAQ classification			
CAI classification	Secure	Dismissing	Preoccupied	Total
Secure	16	1	1	18
Dismissing	0	9	5	14
Preoccupied	0	0	1	1
Total	16	10	7	33

There was a moderate to substantial agreement between the CAQ and CAI ratings for the two other raters for the main and secondary attachment classifications, ranging between 72 to 79% agreement on categorization (see Table 6-19). The classification distributions of the two raters can be found in Appendix A, Tables A-18 to A-21.

Table 6-19. Concordance (kappa) between CAQ and CAI Main and Secondary Attachment Classifications.

Coder	Main attachment	Second attachment
AT	.66	.65
C5	.56	.55
C6	.66	.65

The CAQ and CAI seemed to disagree most on the Dismissing cases, where the CAI classified the cases as Dismissing and the CAQ classified them as Preoccupied. The three cases indicating this disagreement were removed, concordance was repeated and agreement was now substantial between the CAQ and CAI classifications for AT (κ = .77 for main and .76 for secondary) and the other two coders for both the primary (for C5 and C6, κ = .65 and .77, respectively) and secondary attachment classifications (for C5 and C6, κ = .64 and .76, respectively; see Table 6-20).

Table 6-20. Concordance (kappa) between CAQ and CAI Main and Secondary attachment classifications.

Coder	Main attachment	Second attachment
AT	.77	.76
C5	.65	.64
C6	.77	.76

Finally, the two-way classification presented in Table 6-21 showed almost perfect agreement between CAQ and CAI classifications for AT (κ = .88, percentage of agreement = .94%). For the other two coders, the results indicated perfect agreement for C6 (κ = .88, percentage of agreement = 94%) and substantial agreement for C5 (κ = .76 and percentage of agreement = 88%). The classification distributions of the two coders can be found in Appendix A, Tables A-22 and A-23.

Table 6-21. Concordance between CAQ and CAI Attachment Classifications (*N* = 33).

	AT CAQ classification		
CAI classification	Secure	Insecure	Total
Secure	16	2	18
Insecure	0	15	15
Total	16	17	33

A sensitivity and specificity analysis was conducted for Group A using the previously assigned CAI attachment classifications as the criterion and the results were promising as seen in Appendix A, Table A-14. However, as the distributions of classifications were uneven and the cell sizes were too small for two of the categories, the author did not consider the results to be reliable. For this reason the findings are not reported here and the analyses were not repeated for Group B.

As previous results were similar among raters and since AT is considered the gold standard, further assessment of validity was carried out using the scores and classifications of AT.

6.2.1.8. Internal consistency.

6.2.1.8.1. Group A.

Internal consistency of the four CAQ attachment scales was assessed using Cronbach's alpha (see Table A-15 in Appendix A). All scales presented high internal consistency, the alpha coefficient was .85 for the Disorganized, .96 for the Secure, .90 for the Dismissing, and .85 for the Preoccupied scale.

Table A-15 in Appendix A displays the corrected item-total correlations and Cronbach's alpha if an item was deleted. These results indicated that particular items within the Disorganized, Dismissing, and Preoccupied scales were sometimes inconsistently coded and slightly affected the internal consistency of those scales.

Specifically, in the Disorganized scale Item 4 ("Child "zones out" during interview...") [5], and Item 13 ("Child becomes overwhelmed by sadness, fear, or other emotional discomfort related to previous upsetting events..."), displayed a low item-total correlation (< .3), which reflects that those items had a low correlation with the

[5] For long items, only the first phrase or sentences was included. For a full description of items see section B.4 of Appendix B.

overall scale and indicates that they may be measuring something different from the scale as a whole. In addition, three items both presented a low item-total correlation and lowered the scale's internal consistency (if any of these items were deleted alpha would be .86 instead of .85). These items were Item 1 ("Child appears frightened of the interview situation..."), Item 11 ("Child provides incongruent examples..."), and Item 15 (Child seeks physical contact with interviewer, moves toward interviewer…").

Regarding the Dismissing scale, two items presented a low item-total correlation, however they did not lower alpha. These items were Item 42 ("Child gives general assurances to the interviewer that his/her relationships with parents…") and 44 ("Child refers to parent or parent's role in a very disrespectful manner (without intense anger)…").

Finally, the Preoccupied scale had four items with low item-total correlation that also lowered the scale's alpha. If Item 65 ("Child's affect tends to be unvarying and negative throughout the interview…"), Item 75 ("Child offers a few examples in answer to several questions..."), Item 79 ("Child has difficulties focusing on and answering the question…"), or Item 80 ("Child has great difficulty in thinking about experiences with the caregivers.") were deleted the scale's alpha would increase to .86 (instead of .85). In addition, Item 67 ("Child tends to describe most relationships in care giving terms..."), and 78 ("Interviewer has to supply much of the organization to the interaction in order for the child to stay on track…") presented a low item-total correlation, but its deletion would not change the scale's internal consistency.

6.2.1.8.2. <u>Group B.</u>

All scales displayed high internal consistency (see Appendix A, Table A-24); the alpha coefficient was .86 for the Disorganized, .97 for the Secure, .90 for the Dismissing, with the exception of the Preoccupied scale yielding a lower alpha coefficient of .77. However, this value is still within the acceptable range (Kline, 2000; Meyers, Gamst, & Guarino, 2013).

Table A-24 in Appendix A displays the corrected item-total correlations and Cronbach's alpha if an item was deleted. These results indicated that particular items within the Disorganized, Dismissing, and the Preoccupied scales were sometimes inconsistently coded and slightly affected the internal consistency of those scales.

Regarding the Disorganized scale Item 1[6], Item 4, Item 7 (Child presents psychologically confused statements that cannot be true about internal states of others…"), Item 8 ("Child displays overly concrete thinking..."), Item 11, Item 12 ("Child conveys incoherent stories, narratives that do not make sense..."), and Item 13 displayed a low item-total correlation (< .3), which reflects that those items had a low correlation with the overall scale and indicates that they may be measuring something different from the scale as a whole. In addition, Items 1, 8, and 13 presented a low item-total correlation and lowered the scale's internal consistency (if item were deleted alpha would be .87 instead of .86).

Concerning the Dismissing scale, four items (42, 44, 47, and 51) both presented a low item-total correlation and lowered the alpha, if either of these items were removed, internal consistency of the relevant scale would increase from .90 to .91. For the Preoccupied scale, there were three items with low item-total correlation that lowered the scale's alpha: if Items 65 were deleted, alpha would increase to .78, respectively (instead of .77); and deletion of Items 67 or 75 would improve alpha to .79. Also, Item 71 ("There is an impression that the child needs looking after...") and 79 presented low item-total correlation, but deletion would not improve the internal consistency of this scale.

6.2.1.9. Validity of CAQ items.

The validity of the CAQ items was explored following the same process explained in section 4.4.2.3 of Chapter 4.

6.2.1.9.1. <u>Group A.</u>

Results indicated that the use of items mostly corresponded to their intended usage ($\kappa = .82$). Specifically, as indicated in Table 6-22, 100% (20) of the intended Secure items presented a higher mean in children classified as Secure, 90% (18) of the intended Disorganized items had the highest means in children classified as Disorganized, 80% (16) of the intended Preoccupied items presented a higher mean in children classified as Preoccupied, and that 75% (15) of the Dismissing items presented a higher mean in children classified as Dismissing.

[6] Item wording mentioned previously will not be repeated.

Table 6-22. Highest Scoring CAQ Items grouped by AT CAQ Attachment Classification.

	Intended Classification				
Observed Classification	Secure	Dismissing	Preoccupied	Disorganized	Total
Disorganized	0	4	2	18	24
Dismissing	0	15	2	2	19
Preoccupied	0	1	16	0	17
Secure	20	0	0	0	20
Total	20	20	20	20	80

While the overall correspondence between the intended category of each item and their observed use in the corresponding attachment group was encouraging, there were some items which were not mostly used by their intended attachment group in all scales but the Secure. Specifically, out of the 20 items intended to be more present in Disorganized children only two presented a higher mean in children classified as other than Disorganized. Both items were mostly used for Dismissing children and were Item 1 and Item 11.

Regarding the five Dismissing items that were not characteristic of the Dismissing children, these were distributed across the other two Insecure attachment classifications. One item was more characteristic of the group of Preoccupied children (Item 44) and four of the Disorganized children (Items 41, “Child's body language or gestures indicate awkwardness about emotionally loaded subjects.” Item 46, “The coder feels that the child's response seems false, unconvincing...” Item 51, “Child avoids eye contact with the interviewer through most of the interview.” And Item 54, “Child seems bored or resentful about the interview...”).

For the five items intended in the Preoccupied, but used for other classifications, two were more characteristic of children in the Dismissing interviews (Items 79 and 80) and two of children in the Disorganized group (Item 65 and Item 73, “The listener cannot easily understand or follow what the child is saying.”).

6.2.1.9.2. Group B.

Findings indicated that the usage of items corresponded to the intended categorization for the most part ($\kappa = .75$). In specific, as presented in Table 6-23, 100% (20) of the Secure, 95% (19) of the Dismissing, 70% (14) of the Preoccupied,

and 60% (12) of Disorganized items received the highest mean for children classified in the respective category and were used as intended.

Table 6-23. Highest Scoring CAQ Items grouped by AT CAQ Attachment Classification.

Observed Classification	Intended Classification				
	Disorganized	Dismissing	Preoccupied	Secure	Total
Disorganized	12	0	2	0	14
Dismissing	5	19	3	0	27
Preoccupied	3	1	14	0	18
Secure	0	0	1	20	21
Total	20	20	20	20	80

Although the overall correspondence between the intended category of each item and its observed use in the corresponding attachment classification was promising, there were some items which were not primarily used for their intended attachment classification. Specifically, out of the 20 items intended to be more present in Disorganized children eight items presented a higher mean in children classified as other than Disorganized. Five items (Item 1, Item 4, Item 8, "Child displays overly concrete thinking...," Item 18, "Child displays scorn/contempt for interviewer..." and Item 19 "Child is unable to elaborate on questions that tap mental states...") were more characteristic of Dismissing children and three (Item 7, "Child presents psychologically confused statements that cannot be true about internal states of others...," Item12, and Item 13) were more characteristic of Preoccupied children.

For the items intended to described Dismissing children, only one (Item 42) presented a higher mean in children classified as other than Dismissing and was mostly used to describe Preoccupied children. Regarding the six Preoccupied items that were not characteristic of the Preoccupied children, two items were more characteristic of Disorganized children (Items 64, "Child wants the interviewer to agree with his/her view of situations being described...," and Item 75). One item was more characteristic of Secure children (Item 67) and three of Dismissing children (Items 65, 71, and 80).

6.2.1.10. Correlations between CAQ scales and Secure and Insecure Classifications.

6.2.1.10.1. Group A and B.

CAQ scales and two-way classifications (Secure and Insecure) were correlated to test whether scales and classifications correspond in the expected direction and strength. Results were identical for both Group A and B, as indicated in Table 6-24 and Table 6-25, respectively. Children classified as Secure had a strong positive correlation with the Secure scale (r = .84, p < .001) and negative correlations with the Insecure scales. All of the correlations with the Insecure scales were in the expected direction and reached statistical significance. For children classified as Insecure, correlations with the Insecure scales were positive and significant, with an expected strong negative correlation with the Secure scale.

Table 6-24. Correlation between AT CAQ Scales and Secure/Insecure Classifications (N = 34).

	CAQ scales			
Attachment group	Secure	Dismissing	Preoccupied	Disorganized
Secure/Insecure[a]	.84***	-.40*	-.38*	-.53**

Note. [a]Secure =1 and Insecure = 0.
* p < .05. **p < .01. *** p < .001.

Table 6-25. Correlation between AT CAQ Scales and Secure/Insecure Classifications (N = 35).

	CAQ scales			
Attachment group	Secure	Dismissing	Preoccupied	Disorganized
Secure/Insecure[a]	.84***	-.40	-.38	-.53

Note. [a]Secure =1 and Insecure = 0.
* p < .05. **p < .01. *** p < .001.

6.2.1.11. Correlations between CAQ and CAI scales.

6.2.1.11.1. Group A.

CAQ scales and CAI scales were correlated with the aim of assessing validity of the CAQ by examining whether the CAQ scales correspond with the CAI scales in the expected direction and strength based on the markers provided in the CAI coding and classification manual.

As shown in Table 6-26, most of the correlations were as expected, even those that did not indicate a statistically significant relationship had been expected to show low strength. Thus, the CAI scales of Emotional Openness, Balance of Positive/Negative References, and Use of Examples correlated positively with the

CAQ Secure scale and negatively with Dismissing and Disorganized scales. Importantly, Involved Anger related to the Preoccupied CAQ scale, while Idealization and Dismissing CAI scales related to the Dismissing CAQ scale. As would be expected, Overall Coherence ratings of interviews on CAI coding related most strongly positively to Security and strongly negatively to Disorganization in the CAQ scales.

Table 6-26. Correlation Matrix for AT CAQ and CAI Scales (*N* = 34).

	CAI scales							
CAQ scales	EMOT	BAL	EXAM	ANGR	IDEAL	DISM	CONF	COH
Secure	**.62*****	**.48*****	**.73*****	-.37*	-.17	-.62***	**.63*****	**.82*****
Dismissing	-.66***	-.38*	-.63***	-.02	**.36***	**.65*****	-.47**	-.60***
Preoccupied	.18	-.14	.06	**.59*****	**-.08**	**-.07**	**-.08**	**-.05**
Disorganized	-.40*	-.20	-.50**	.07	-.07	.32	-.40*	-.57***

Note. EMOT = Emotional openness; BAL = Balance of positive/negative references to attachment figures; EXAM = Use of examples; Preoccupied/Involved Anger; IDEAL = Idealization of attachment figures; DISM = Dismissal/derogation of attachment; CONF = Resolution of Conflict; COH = Overall coherence; Correlations predicted to be positive are bolded; Correlations predicted as negative are underlined.

**p* < .05. **p < .01. ***p < .001.

6.2.1.11.2. Group B.

As shown in Table 6-27, most of the correlations were again as expected, except for the correlations of two scales that constituted key markers of Dismissing and Preoccupied classifications as instructed by the CAI manual, explained in further detail below. The CAI scales of Emotional Openness, Balance of Positive/Negative References, and Use of Examples correlated positively with the CAQ Secure scale and negatively with Dismissing and Disorganized scales. The Involved Anger scale related to the Preoccupied CAQ scale, however the relationship was low and did not reach statistical significance, contrary to what was expected. The Dismissing and Idealization CAI scales were related to the Dismissing scale, however the latter relationship was low and did not reach statistical significance, contrary to what was expected. In accordance to predictions, overall Coherence ratings of interviews on CAI coding related most strongly positively to Security and most strongly negatively to Disorganization in the CAQ scales.

Table 6-27. Correlation Matrix for AT CAQ and CAI Scales (N = 35).

	CAI scales							
CAQ scales	EMOT	BAL	EXAM	ANGR	IDEAL	DISM	CONF	COH
Secure	**.62*** **	**.39***	**.55****	-.11	-.43*	-.49**	**.66*** **	**.62*** **
Dismissing	-.67***	-.41*	-.56**	-.04	**.20**	**.52****	-.50**	-.47**
Preoccupied	.29	.32	.27	**.27**	-.01	-.01	-.05	-.05
Disorganized	-.57***	-.49**	-.57***	.05	.58***	.29	-.59***	-.65***

Note. EMOT = Emotional openness; BAL = Balance of positive/negative references to attachment figures; EXAM = Use of examples; Preoccupied/Involved Anger; IDEAL = Idealization of attachment figures; DISM = Dismissal/derogation of attachment; CONF = Resolution of Conflict; COH = Overall coherence; Correlations predicted to be positive are bolded; Correlations predicted as negative are underlined; (*p < .05. **p < .01. ***p < .001).

6.2.2. Qualitative analysis for attachment disorganization.

Whilst coding and closely reviewing the narratives of children from the interviews using the CAI to enrich the CAQ training manual, certain recurrent themes regarding *numbers* and *sense of time* seemed to repeatedly emerge with Disorganized children. The narratives of these children seemed to display a tendency to use numerical figures to express themselves, some seemed to use these repeatedly as part of their communication, while others seems to rely on using numerical figures particularly when they wanted to place emphasis or exaggeration on their narrative. Moreover, the narratives of Disorganized children seemed to display a somewhat distorted sense of time without any awareness of or intention to correct this discrepancy. Interestingly, children from other attachment classifications, both Secure and Insecure did not display either phenomenon in their narratives.

To the knowledge of the author, few other researchers have mentioned this phenomena, except for: (a) Main and Goldwyn (1998) in the scoring and classification manual of the AAI, in the section for Unresolved/disorganized states, where “Disorientation with respect to time” is considered an example of lapse in monitoring of reasoning; and (b) Shmueli-Goetz (2001) when considering the minimum appropriate age to administer the CAI, found that a seven year old girl classified and Disorganized seemed to lack the ability to comprehend the concept of time.

Relevant examples are included below, however the two observed phenomena have not been segregated into two categories when they were both present in an interview. Instead the information collected from each interview has been presented intact for each child. The reason for this is to show that both phenomena can be present concurrently and that it is still unclear if indeed these phenomena are separate or actually related in some way that is not yet apparent.

Male 8 years old

One of the words provided by the child when asked to describe himself was "huggable." When the interviewer asked him to provide an example of a time when he was huggable, he responded, "I can tell you about the last 152 times I was a bit too huggable." *However no specific example was later provided.*

Male 10 years old

In the introductory section asking information about the people in his family, when asked about how long he has been with his adoptive parents, he replies, "I've been with them about (pause), well I'm ten now, I've been with them for about 12 years."

One of the words used to describe the relationship with dad was "fun." When the interview asked him to provide an example, he responded "He took me to Aquasplash…*What is Aquasplash?* It's a great swimming pool. *With chutes?* With lots and lots, about 150,000 chutes.

In response to the question concerning separation from parents, he responded, that he went to Wales with his old school. The interviewer then asked, "*How long did you go for?* 50 days. *That's a long time*. It is. I had to go home on the second day."

Male 8 years old

When asked about the last time mom was cross, he responded "Four, five years ago." When prompted by the interview, he then referred to a recent example and when asked what mom said, he replied, "She said you're grounded for 15 years. *You're not grounded now are you?* No… *So what happened?* She let me off… *What did you do?* I told her that I would leave the house, go to my girlfriend's house…*She's been your girlfriend for a long time?* Yeah. She's been my girlfriend for 13 years. Since I was a baby."

Perhaps in the first instance when he refers to mom being cross four, five years ago he was avoiding answering the question and when saying that he was grounded for 15 years perhaps him mother could have said this while angry or he

was using a numerical figure to add emphasis to his narration. However, in the last part of his response where he says that he's been with his girlfriend for 13 years, when he is only 8 years old and then also goes on to say since he was a baby, without showing any awareness or effort to correct this discrepancy, clearly indicates that the child has a distorted sense of time.

In the section concerning death of someone close to you, they discussed the death of his uncle Bill. When asked about attending the funeral, he explained that his mom didn't let him go, the interview then asked, *"Did you ask her if you could go?* I asked her if I could go and she said no, it's just only for adults. It is. One hundred and twenty five little kids who like loved Bill, and were Bill's friend, weren't there. And I'm one of them and I didn't go."

Again, it is very unlikely that the child has any information about 125 children loving his uncle and it seems quite odd that the child chose this very particular figure and instead of saying "many," he chose a numerical figure to express himself.

Female 8 years old

In response to the question about mom being cross she describes being physically abused. The interview then asks, "*What happens after that happens?* Well, my mum's still angry at me, she swears at me, and (pause) I just go up to my room. And sometimes I never get any lunch... *How often would you have to stay in room?* How long? *Yeah.* Well I'll tell you how many minutes and how many hours. When I'm very naughty, I usually stay about 2 hours, if I'm kind of naughty, I stay for about 20 minutes, and when I'm not naughty, then I'm in my bedroom for about 60 minutes, uh 60 seconds."

One of the words used to describe herself was "very good at writing stories," when asked for an example she describes one of her stories about a boy dying and the parents committing suicide, she then goes on to mentions her mom's granddad committing suicide by saying, "You know, my mum, my mum's granddad killed himself because her auntie died, cause she died and my granddad, my mom's granddad couldn't live without his daughter, so he took this big pot of painkillers, went like that (as if drinking pot) and died. Cause you know you should only take two or one and he took the whole bottle. It was about that much (indicating big pot) and about a thousand in there and they were that small (indicating tiny size of pill). And he took all of them."

In response to the question about anyone close ever dying, she responded, *Has anybody close to you ever died?* Um (long pause) no but my auntie's husband died, he's called uncle Don. *Did you know him?* He loved me dearly. *How long ago did he die?* Few months ago. *How did you feel when that happened?* Very upset. *Did you go to the funeral?* Yeah, I was only a baby, he died of a heart attack. *Do you remember much about him?* No.

In response to the question about someone she care about not being around anymore, she responds, "No, but you know what my cousin called Ethan he had a hole in his heart. He was in hospital, and he had all these tubes in him, and he had a stitch, they cut his body right open, from here took his heart out and stitched it... *Is he a baby?* He's only about eight months really cute…so when I'm fifteen, he'll be eight…cause he is eight months, and I'm eight, but when I'm fifteen, he'll be eight so I'm about five, and I said to her can I baby sit him, when he was a baby, and she said 'well guess what, just think this in your head', and I said 'oh my god, I'll be fifteen, and he'll be eight, I can't baby sit when I'm baby, he's a baby.'"

The manner in which this particular child uses numerical figures is perplexing. She tends to display the phenomena observed interchangeably. In the first excerpt concerning staying in her room, the child was eager to provide the interview information with the exact time the child is required to remain in her room. This seemed quite odd that the child wanted to provide this information and that she closely monitored this information. In the second excerpt where she describes the suicide, she used a numerical figure to add emphasis and exaggerate the number of pills ingested by the granddad.

In the third excerpt, she clearly seems to have a distorted sense of time when she says that he died a few months ago and she was only a baby. However, in conjunction with the fourth excerpt it is unclear whether it is sense of time that is distorted or rather sense of age, or perhaps both.

Male 9 years old

In response to providing information about the people in his family, he responds, "I've got five people in my family, I've got five children plus the two parents."

One of the words used to describe the relationship with mom was "do a bit of playing with mom." When asked to provide an example, he responded, "Sometimes we play yoyo, and I go to shop with her. *When was the last time you did a bit of*

playing with your mom? The last 3 weeks. When asked about the last time dad was cross with the child, he responded, "Last year", last time he was ill, "A year ago" and last time his parents argued, "Like 18 weeks ago."

In a slight variation to the other children, this boy is very particular about using numerical figures in his responses. Although he doesn't necessarily display a distorted sense of time, it is very unlikely that he can quickly recall and provide such succinct information about past events. It seems as though this child is making up his responses, particularly the last one about 18 weeks. How many individuals of any age, could actually provide such information about a particular event during an interview whose question have not been previously presented to them?

Male 11 years old

One of the words used to describe himself was "angry," when asked for an example, he replied, "Two days ago. *What happened two days ago?* My mom said I was a baby."

The first word used to describe the relationship with mom was "frustrating," the supporting example offered was "When she called me a baby. *Was that two days ago?* Yeah. *Can you think of another time when you felt frustrating with your mom?* (long pause) When I am being mean to my dog and she sends me to my room. *Can you tell me about a time when that's happened?* This morning. *What happened?* It was two days ago. I got mad and threw a fit and I threw my dog."

The third word used to describe the relationship with mom was "angry," in response to being asked for an example, he says, "Five days ago I got mad at her and threw stuff at her."

When asked to provide an example about mom being cross, he responded, "She like puts vinegar into my mouth or hits me with a belt on my bottom. *Does she usually do that?* If it's real bad she does but if it's not she just sends me to my room. *How often does it get that bad that she hits you with a belt on your bottom?* Like four days a month."

The excerpts of this 11 year old above may be somewhat weaker in indicating the presence of the phenomena mentioned in this section, however it is interesting that again he uses a specific number of days to provide a time frame for his example and also in the first two instances, it is both two days ago. In the last excerpt provided for this child, it is again noteworthy that he remember that his mother hits him with a belt four times per month. It seemed like this knowledge was available off

the top of his head, although like all other children he was unprepared for the questions in this interview. Perhaps again indicating that these responses are made up rather than a reflection of reality and true events in the child's life.

Female 7 years old

During the interview when providing examples about one of the words ("really bad") used to describe mom, the child drifts off topic and says, "You have to tell a lie sometimes in interviews. *Do you have to tell lies?* Sometimes. *Why?* Because once I was watching an interview on television on Blue Peter and it said that millions and millions and millions and millions and millions it was on an interview in Blue Peter and they said that about 6000 planes have gone missing, 10 boats have gone missing and how many (pause) and about like 5 helicopters and I don't believe it."

It seems this child was keen to use an example containing numerical figures to prove her point about sometimes telling lies in interviews. While providing the figures provided in the television program she placed a great deal of emphasis in her speech, therefore it seems she used numbers to emphasize her point. However, for a child of this age, it is very unlikely that she would be able to remember these figures (Papalia, Olds, & Feldman, 2001), hence it seems that she was making up these figures.

Although this is only a preliminary observation concerning these phenomena and is not a comprehensive qualitative analysis, it is very interesting to note that at least the phenomena of distorted sense of time has been reported by other researchers even though in a different population (Main & Goldwyn, 1998). During development of the CAI, "poor conception of time" was identified for Disorganized children, but it was attributed the child being younger than eight years of age. As indicated in the current analyses, this phenomenon is actually observed across Disorganized children ranging between 7 to 11 years of age and does not seem to be related to immaturity of the child. Perhaps if researchers monitored the trajectory of a young child to middle childhood and through the adulthood, this observation may actually prove to be a manifestation of Disorganized attachment that is present in various age groups and persists across the life span.

As explained in Chapter 3 and researchers support, it is vital that research focuses on studying the trajectories of Disorganized attachment from early childhood into middle childhood through to adolescence and adulthood (Lyons-Ruth &

Jacobvitz, 2008; Moss et al., 2005). If the common behaviors and/or transformation of behaviors of Disorganized children, as development progresses, is not studied and understood, it seems that basic knowledge contributing to understanding these individuals and working towards helping them is severely lacking. It seems obvious that research should now turn to observation studies to enrich knowledge of this attachment classification. Therefore, future studies including a much large samples of Disorganized children in middle childhood than the current one are necessary to assess if the phenomena reported here are also observed in other samples and also to follow their trajectory across the life span.

6.2.3. Discussion.

The aim of the present chapter was to assess reliability and conduct preliminary analysis concerning the validity of the CAQ using two separate groups of naïve coders.

Overall, assessment of interjudge reliability across the expert and six naïve coders was very promising for both CAQ scales and attachment classifications. Specifically, agreement for scales was in the good to excellent range and agreement for both primary and secondary classification was in the excellent range. These findings indicate judges with limited attachment knowledge and having received the current level of training can use the CAQ to reliably code and classify attachment representations in middle childhood. These findings were analogous and in some cases better to the interrater agreement reported for the CAI, which ranged between moderate to almost perfect for primary and secondary classification (Borelli et al., 2010; Target et al., 2003; Humfress et al., 2002). This indicates that using the current training of the CAQ, the ability of naïve coders to reliability use the current system is similar and in some instances better than that achieved by the CAI training and original coding system.

Overall, the preliminary findings of this chapter concerning the validity of the CAQ were promising. Reliability as assessed through internal consistency is considered a precondition of high validity (Kline, 2000) and all four CAQ scales displayed high internal consistency, thus extending the preliminary findings reported in Study 1 of Chapter 4 by offering further evidence of the validity of the CAQ. This suggests that the four CAQ scales seem to be measuring the same construct. The only exception was that that internal consistency of the Preoccupied scales decreased from

high for Group A to acceptable for Group B. This could be attributed to overall difficulties with assessing Preoccupied attachment as reported by other researchers (Main & Cassidy, 1988; Wartner et al., 1994) and by the developers of the CAI (Shmueli-Goetz et al., 2008).

Further, as the results of internal consistency for the Preoccupied scale were high in both Study 1 of Chapter 4 and for Group A of the current chapter, this finding could also be attributed to inconsistent coding that only pertains to Group B. Hence, this finding will be taken into consideration for future refinement of the CAQ, but it not necessarily considered indicative of poor internal consistency for this scale. In addition, encouraging findings for the validity of CAQ scales were that the differences between ratings of scales in relation to attachment security were significant across all four scales, with associations in the expected direction.

Validity of the CAQ was further assessed through item level analysis. Closer examination of the items in each scale showed that across both groups of the current study and Study 1 of Chapter 4, Item 28 from the Secure scale was consistently placed at the extreme ends of the distribution during codings, ranking the item as either very characteristic or very uncharacteristic of children. This could be attributed to the wording of this item because by using the phrase “Clear evidence” at the beginning of the item, raters may be influenced to respond in a yes or no manner, thereby resulting in placement at the extreme ends of the Q-sorting distribution. Modifying the wording of this item will be considered as part of future development for the CAQ.

In addition, the validity of CAQ items was examined by assessing if the 20 items composing each attachment scale received highest scores for interviews classified in that attachment category. Extending the findings of Study 1 in Chapter 4, overall there was high correspondence between the intended category of items and the observed use of the items for classification. The most promising results were reported for the Secure scale, where all items consistently received highest scores for children classified as Secure. This finding was the same in Study 1 of Chapter 4 and for both groups of the current study. The Disorganized items showed promising results for Study 1 of Chapter 4 and Group A of the current chapter, with the exception of 1 and 2 items, respectively. The items identified in each Study 1 of Chapter 4 and for Group A of the current study did not overlap. However, for Group B of the current chapter, five items from the Disorganized scale were not used as

intended. Of the five items identified, Item 1 was also identified for Group A of the current study and Item 19 was also identified in Study 1 of Chapter 4.

For the Dismissing scale, about a quarter of the items were not used as intended by Group A of the current study and Study 1 of Chapter 4, with Items 44, 46, and 54 similarly identified in both analyses. Surprisingly, only 1 item presented a mismatch for Group B and was not identified previously for Group A or in Study 1 of Chapter 5 as problematic. Across Group A and B of the current chapter and Study 1 of the Chapter 4, about a quarter of the items in the Preoccupied scale received higher scores in children classified by the CAQ into different attachment classification than intended. As evidenced by the abovementioned findings, evidence has been strongest for validity of the Secure and Disorganized scales, however this could be due to the fact that the observations described in Secure and Disorganized items are easier to identify as they constitute the two 'extreme' types of attachment that would be situated at the opposite end of a continuum, if attachment was perceived in this way, whereas, items of the Dismissing and Preoccupied scales can sometimes pose a greater challenge for the coder. This could be due to an overlap of some features for the organized Insecure scales that will be examined further in future studies using different samples of children and experts in the field of attachment as judges.

Further testing of the promising results concerning construct validity reported in Study 1 of Chapter 4 by comparing CAQ and CAI scales was repeated and indicated that the scales of the two instruments were associated in the expected patterns. These findings suggest that the CAQ using a different approach to coding mental representation of attachment in middle childhood is measuring a coherent construct closely related to the constructs tapped by the ordinary CAQ coding system. However, it should be mentioned that for Group B, the Involved anger scale, an important marker for assigning Preoccupied attachment, and Idealization, an important marker for assigned Dismissing attachment using the ordinary CAI system were in the expected direction, but their magnitude was somewhat lower than expected and did not reach statistical significance. However, this was not surprising as there are other criteria for assigning Preoccupied and Dismissing classifications. Concerning Involved anger, this could be attributed to the findings reporting by the CAI, where a small group of children classified as Preoccupied were not angry (Shmueli-Goetz et al., 2008), which seems to have been the case in the Group B as

well. Also, in adults using the AAI there are ways of being Preoccupied that do not involve anger, for example passive and fearful Preoccupation (Main & Goldwyn, 1998). Concerning Idealization, the lower than expected strength of the association, could be attributed to the fact that this particular group of Dismissing children did display features characteristic of this attachment classification, but not that of Idealization in particular, for example extremely brief responses, claiming not to remember anything or appearing irritated. This points to one of the strengths of the CAQ, where classification is more objective without relying on particular markers to assign attachment classification, but rather creating an overall representation of the child's behavior, emotions and cognition when the attachment system is activated and allowing this array to designate scale scores and classification. It seems reasonable to assume that child may be Preoccupied without being angry and a child may be Dismissing without idealizing the parents. Thus, narrowly relying on particular markers to assign attachment classifications, could perhaps lead to incorrect classification using the ordinary CAI system, as seems to be the case for Preoccupied children (Shmueli-Goetz et al., 2008), whereas the 20 items corresponding to the CAQ Preoccupied scale may actually enhance the ability to correctly assign this classification.

As further support of construct validity, comparison between the CAQ and CAI main and best fitting secondary attachment classification indicated substantial agreement across the author and the six naïve coders offering support for criterion validity of the CAQ, as also evidenced in Study 1 of Chapter 4. It is important to mention that for Group B of the current study, most discordance between the CAQ and CAI was observed for children classified as Dismissing on the CAI, but classified as Preoccupied on the CAQ. It is difficult to know if the problem lies with the CAI or with the CAQ. However, an existing problem of the CAI is that it is has difficulties coding attachment Preoccupation and further development is currently underway by the developers of the CAI (Shmueli-Goetz et al., 2008). This particularly affected the concordance of Coder 5 and when the analyses were repeated removing these problematic cases agreement increased from moderate to substantial. Future studies, with samples containing a higher frequency of Preoccupied children should aim to further assess the concordance of the two measures for this particular attachment classification, elucidating potential improvements needed in both systems, as items for the Preoccupied scale were the

only ones that posed difficulties while developing the Q-set of the CAQ, an often underrepresented attachment classification.

To conclude, overall the findings for reliability of the CAQ were promising, indicating that there is a platform for assigning scale scores and attachment classifications to children administered the Child Attachment Interview. Concerning the preliminary analysis of validity, the results were encouraging but do raise some concerns for the validity of the CAQ system, particularly for the Preoccupied items, an attachment classification that is infrequently observed and poses difficulties for most researchers. The weaknesses identified in the current studies will be taken into consideration and further assessed in future studies with judges that are experts in the field of attachment.

Although this new instrument does have certain weaknesses, the findings indicate that the CAQ can potentially be considered an appropriate instrument for the assessment of mental representations of attachment in middle childhood. With the development of the CAQ, an important limitation of the ordinary CAI system to incorporate behavioral analysis into coding attachment has been addressed. Therefore, the CAQ can be viewed as an evolution of the ordinary CAI system assessing a constellation of features corresponding to the behavioral, emotional and cognitive aspects of each attachment classification. That is available to individuals with limited knowledge in attachment and minimal training that can be completed independently, without the necessity of formal or extensive training. The CAQ showed promise in assessing attachment at the behavioral and observational level by naïve coders, thereby achieving one of its aims. Also the CAQ provides an innovative approach of combining Q-technique with direct questions to assess attachment in middle childhood, which to the knowledge of the researchers has not been previously attempted for this period of the life span. A limitation of the current studies was that expert judges were not included as coders. As the input of experts in the field of attachment is considered of paramount importance to further developing and assessing the psychometric properties of the CAQ, future studies will address this as a matter of priority.

6.2.3.1. Future considerations.

As part of future consideration for the CAQ, interesting phenomena that emerged when closely examining the videos of children classified as Disorganized

will be considered. These children all seemed to have a tendency to use precise numerical figures (e.g., 125) particularly when wanting to emphasize a point and/or displaying a distorted sense of time. As neither of these phenomena are currently included in the CAQ, future studies focusing on Disorganized children may help further inform if these items constitute behaviors that are commonly observed across various samples of Disorganized children and should be considered as additions or replacements of existing CAQ items or if they were features prevalent among the Disorganized children used in the current research.

In addition, frequent feedback from coders was that it would have been useful to be able to actually see someone conducting a Q-sort of an interview before we engaged in this process. With further discussions indicating that what they had in mind was sitting alongside a live person conducting an interview to see how the actual process worked. As this veered more towards a formal training process which it was the intention of the CAQ to avoid, a future development to address this issue would be to create a DVD with a video of an individual performing a Q-sort for each attachment classification. While performing this task, the coder would provide auditory information about his/her thinking and decision making process while conducting the Q-sort. The person watching this training DVD could code the same case alongside the instructions provided in the video, thereby enhancing understanding and providing information for the internal working model of the CAQ. This future modification will hopefully make using the CAQ even simpler for naïve coders.

Chapter 7: Assessment of CAQ Discriminant Validity

Previous chapters provided evidence that the Child Attachment Q-sort (CAQ) is sufficiently reliable, an aspect which is considered fundamental if an instrument is to be recognized as valid. However, although lack of reliability precludes validity of an instrument, a reliable measure cannot be considered valid unless there is also evidence that it measures what it purports to measure (Kline, 2000). Therefore, further assessment is necessary to evaluate the validity of the CAQ. The current chapter will focus on testing the discriminant validity of the CAQ by examining associations between attachment and intelligence, linguistic ability, and behavioral problems of children.

7.1. Attachment, Intelligence, and Linguistic Ability

Findings concerning the association between attachment classification, intelligence, and language ability have been quite mixed. Starting with adulthood, studies examining the discriminant validity of the AAI (George et al., 1985) by assessing the independence of attachment classification from verbal IQ have consistently reported no association between Secure and Insecure attachment in relation to IQ (Sagi et al., 1994; Crowell et al., 1996; Bakermans-Kranenburg & Van IJzendoorn, 1993). In addition, analyses including Unresolved, Autonomous and Dismissing classification groups also yielded associations that were not significant (Bakermans-Kranenburg & Van IJzendoorn, 1993), as did a comparison between Dismissing and non-Dismissing participants indicated that Dismissing adults do not perform less well on IQ related tasks (Sagi et al., 1994).

Focusing on younger children , a meta-analysis conducted by Van IJzendoorn, Dijkstra, and Bus (1995) examining the association between attachment and intelligence of infants reported a significant, although very weak association between attachment and intelligence. In contrast, even though studies examining the relation between attachment and language were sparse, the association was significant and much stronger than with IQ, indicating that Secure infants and toddlers, between the ages of 11 to 42 months, have better verbal skills than their Insecure counterparts.

Studies in older children have yielded conflicting results with some researchers reporting an association and others finding an absence of any relationship between Security of attachment and intelligence. A study using a sample of Dutch children assessed attachment in toddlerhood and IQ and found a significant association between Secure attachment and IQ, with best performance being observed for verbal IQ of Secure children (Van IJzendoorn & van Vliet-Visser, 1988). Interestingly, Verschueren and Marcoen (1999) found a significant association between attachment to mother and verbal IQ among five year olds; in specific, Bizarre/ambivalent children had significantly lower scores than Secure children and Dismissing children had scores that were in the middle between Bizarre/ambivalent and Secure children, without a significant difference with either of the two groups. However, this association was not observed for attachment to father.

In addition, examining this association in middle childhood, Easterbrooks and Abeles (2000) reported a significant relationship between verbal IQ and Security of attachment, as assessed by the SAT, in eight year olds. Similarly, using a sample of seven year olds from Iceland, Jacobsen and Hofmann (1997) assessed attachment by using a separation story and found that Secure children had significantly higher IQ scores than the Insecure children. Likewise, a recent study with preschoolers found that both verbal and performance IQ was associated with Secure attachment (as assessed by the ASCT), and surprisingly that Disorganized attachment had a positive relationship with verbal IQ (Stievenart, Roskam, Meunier, & van de Moortele, 2011). Also, a study with 1,364 children from the NICHD SECCYD prospective study following children from birth until first grade examined the association between overall IQ and attachment. Attachment was assessed using a modified version of the SSP and findings indicated similar IQ scores for Dismissing and Secure children, and significantly lower scores for children classified as Preoccupied and Insecure/other (O'Connor & Byrne, 2007). Finally, a recent longitudinal study by West, Mathews, and Kerns (2013) assessed attachment at 15 (SSP), 26 (AQS) and 36 (Cassidy-Marvin system) months and then measured overall IQ when children were in third and fourth grade. The findings indicated that Secure attachment in infancy showed significant association with higher IQ scores in middle childhood, but this was observed only for attachment status at 26 and 36 months and the association was low in magnitude. This association raises an interesting question of whether

cognitive abilities facilitate development of Secure attachment, e.g. through communication and confidence, or is it attachment security that lays the foundation for increased cognitive development.

In contrast to the findings mentioned above, a longitudinal study with a sample of Canadian children assessed during early childhood found no difference between attachment groups (assessed using the Cassidy-Marvin system) for verbal intelligence (Moss & St-Laurent, 2001). Wintgens and colleagues (1998) also reported no association between attachment (as assessed by the Story-Stem Completion Task) and total IQ among kindergartners. In addition, McCarthy (1998) assessed this relationship with a group of children between the ages of four and six, and found no relation between attachment (assessed using a modified version of SAT) and verbal intelligence. In line with these findings, assessment of discriminant validity of the CAI indicated that verbal IQ and expressive language is independent of Insecure versus Secure attachment classification (Shmueli-Goetz et al., 2008).

7.2. Attachment and Psychopathology

Although studies focusing on the relationship between attachment and psychopathology are increasingly being conducted, the picture still remains rather unclear. As this is a complex area of investigation and there is a great deal of variation in the way that studies are conducted, where some researchers focus only on the Secure-Insecure dimension, others only on Disorganized attachment (e.g., Madigan, Moran, Schuengel, Pederson, & Otten, 2007), yet others on three-and four-way classifications (e.g., O'Connor et al., 2011) or a combinations of these approaches (e.g., Green, Stanley, & Peters, 2007) it is difficult to draw any definitive conclusions. Further adding to this complexity is the fact that studies often yield conflicting results (e.g., Green et al., 2000; Shmueli-Goetz, 2001) and in middle childhood this is further complicated by the lack of well validated instruments that may cast doubt on reported findings.

Assessing this relationship during the early years of childhood, O'Connor and colleagues (2011) analyzed the data of 1,364 children from the NICHD SEECYD study and found that at 36 and 54 months of age using ratings by mothers and teachers, Secure children displayed less internalizing behavior than did the Disorganized/controlling group. Furthermore, during the same ages the Secure group

showed less externalizing behavior than children classified as Ambivalent, Avoidant, and Disorganized/controlling. In the same line, but focusing on attachment Disorganization, Madigan and colleagues (2007) found that Disorganized attachment at 12 months of age was significantly associated with externalizing behavioral problems at 24 months of age. Also, supporting these findings is a meta-analytic study conducted by Fearon and colleagues (2010) indicating a significant relationship between Insecure attachment and problems of externalizing behavior, with a large effect observed for boys and clinical samples. In addition, Disorganized children appeared to be at more risk for developing externalizing behavior, with lower risk for Dismissing and then Preoccupied children.

Among older children, Carlson (1998) conducted a longitudinal study focusing on the precursors and consequences of Disorganized attachment. Findings based on ratings by teachers showed Disorganization of attachment to have a significant albeit small association with internalizing behavior problems in both elementary and high school, however no association was observed for externalizing behavior problems for these same children during the two time intervals. Green, Stanley, Smith, and Goldwyn (2000) used a sample of children during the first three years of elementary school to examine the relationship between symptomatology and representation of attachment on the MCAST. Findings indicated that Disorganized attachment was significantly related to overall problems of behavior as rated by teachers using the Child Behavior Checklist (Achenbach & Edelbrock, 1981), but not when rated by parents. Moreover, neither the overall behavioral ratings of parents nor teachers displayed significant difference for the Secure versus Insecure group of children. Surprisingly, a difference was observed for parental ratings of Internalizing behavior, with Securely attached children receiving higher scores. Perhaps this difference occurred because parents of Secure children were more aware of the children's anxieties and mood.

Assessment of this relationship in middle childhood using the CAI indicated that based on maternal assessments of the behavioral problems, Insecure children received higher Internalizing scores than Secure children for attachment with respect to both mother and father. Externalizing scores and total behavior problems showed no difference for Secure versus Insecure children for attachment for both parents. In addition, examining the contribution of Internalizing scores to predicting attachment security showed only slight improvement (Shmueli-Goetz, 2001).

Focusing on samples with mental health diagnosis, Green, Stanley, and Peters (2007) examined the association between representations of attachment, as assessed by the MCAST, and psychopathology in a high risk sample of children diagnosed with Oppositional-Defiant Disorder (ODD) and Conduct Disorder (CD). The results indicated that based on severity of behavioral problems, as assessed by parents, there was a significant difference with Disorganized children exhibiting higher scores in comparison to non-Disorganized children, however this differentiation was not observed for Secure versus Insecure attachment groups. Clarke and colleagues (2002) investigated the association between ADHD and attachment (assessed using the SAT, the Self Interview and Family Drawing) among boys in middle childhood and found that the group of boys with ADHD demonstrated lower attachment security than the control group.

Among a clinical sample, Goodman, Stroh, and Valdez (2012) investigated the association between internalizing behavior problems and attachment representations in middle childhood using the ASCT with a psychiatrically hospitalized sample. The association between attachment and depression was not significant for four-way classification, but when comparing Disorganized to non-Disorganized children, a signification relationship emerged, showing a tendency for Disorganized children to be clinically depressed.

Interestingly, when examining the association between attachment and anxiety disorders of separation anxiety disorder (SAD), post-traumatic stress disorder, simple phobia and overanxious disorder, only SAD was significantly associated with four-way attachment classification. In specific, post-hoc tests indicated higher prevalence in Preoccupied and Disorganized children and less prevalence in Dismissing children. Closer analysis of the SAD group indicated that 60% had received a classification of Disorganized attachment and 56% were assigned a Preoccupied classification. However, no association was found when comparing Disorganized to non-Disorganized children. The authors explained that these findings may suggest that Dismissing attachment buffers psychiatrically hospitalized children from manifestations of SAD symptomatology.

7.3. Present Study

From the rather confusing picture emerging from existing research, the necessity for further studies examining the association between attachment, intelligence, expressive language ability and behavioral problems seems warranted, with the inclusion of comparisons with four- and three-way attachment classifications that seems to be limited among studies to date.

The present study will aim to address the following three relationships to contribute to enriching research in middle childhood and assess the discriminant validity of the CAQ: (a) attachment status and intelligence, (b) attachment status and expressive language, and (c) attachment status and behavioral problems as reported by parents. It is expected that attachment will not be related to intelligence and expressive language. For the association between attachment status and behavioral problems, given the findings in the literature, a mixed picture is expected. However, when testing for the relationship between attachment status and psychopathology, it is expected that the CAQ will perform as an objective attachment status indicator. Each association is examined separately in the three studies mentioned below with results for both an expert coder (AT) and a single rater (SR) to see if a person with limited knowledge of attachment, having completed the CAQ training, could yield valid results.

7.4. Attachment and Intelligence

7.4.1. Methods.

7.4.1.1. Participants.

For the purposes of the validity studies in the current and next chapter, a sample of 76 CAI videos (37 clinical and 39 non-clinical children from the larger AFC dataset recruited from referrals to three London specialist child mental health clinics and three schools in London, respectively) were coded by AT, Coder 5, and Coder 6 (two postgraduate psychology students). As described in the results for Group B of Chapter 6, all three coders had rated 35 overlapping cases and as assessment of reliability was high each rater continued to independently code a new set of interviews with an almost equal split of cases from the normal and clinical samples. AT coded 26 cases (11 clinical and 15 non-clinical), and Coder 5 and 6 each coded 25 cases (13 clinical and 12 non-clinical). The subsequent studies will

use various subsamples drawn from this sample of coded cases. Please refer to Table A-58 in Appendix A for a summary of the samples used across studies and degree of overlap.

As shown in Table 7-1, the sample was composed of children with ages ranging from 7.1 to 13.2 years (mean age of 10.3 years), with 53% boys and 47% girls, predominantly from Caucasian (77%), working class families (59%);

Table 7-1. Demographic Information of the Sample.

Demographic Variables	Sample (N = 76)
Age (Years)	
M (*SD*)	10.3 (1.62)
Range	7.1 – 13.2
Males	40 (53%)
Ethnicity[a]	
Caucasian	57 (77%)
Black or mixed	12 (16%)
SES[b]	
Middle class	26 (41%)
Working class	37 (59%)

[a] Ethnicity data missing for 2 children; [b] SES data missing for 13 children

The current sample was comprised of three subsamples from previous chapters (32 children from Group A of Chapter 6, 29 children from Group B of Chapter 6, and 23 children from the sample mentioned above in section 7.4.1.1). The total sample was composed of 84 children, whose age ranged from 7.1 to 12.5 years (with a mean of 9.7), were predominantly boys (58%), Caucasian (75%), and from a working class SES (64%) (as shown in Table 7-2).

Table 7-2. Demographic Information of the Sample.

Demographic Variables	Sample (*N* = 84)
Age (Years)	
M (*SD*)	9.7 (1.27)
Range	7.1 – 12.5
Males	49 (58%)
Ethnicity[a]	
Caucasian	61 (75%)
Black or mixed	8 (10%)
SES[b]	
Middle class	29 (36%)
Working class	52 (64%)

[a] Ethnicity data missing for 3 children; [b] SES data missing for 3 children

7.4.1.2. Measures.

7.4.1.2.1. Child Attachment Interview (CAI).

Detailed information about the CAI is provided in section 1.3.1.1 of Chapter 1. Please refer to section D.1 of Appendix D for the CAI Protocol.

7.4.1.2.2. Child Attachment Q-sort (CAQ).

Information about the CAQ Training System III is provided in 6.1.2.2.1 of Chapter 6.

7.4.1.2.3. Wechsler Intelligence Scale Children – Third Edition (WISC-III UK).

The WISC-III UK (Wechsler, 1992) is a validated and widely used instrument to measure the intelligence of children between the ages of six and 16 years. The WISC-III UK consists of 13 subtests (e.g., Picture completion, Arithmetic, etc) designed to measure multiple dimensions of IQ and yields three scores corresponding to Verbal, Performance, and Full Scale (Overall) IQ. For the current study an abbreviated form of the WISC was used, comprised of four subtests: (a) Similarities, (b) Vocabulary, (c) Picture Arrangement, and (d) Block design. Using these sub-tests, estimates for Verbal, Performance, and Full Scale (Overall) IQ were prorated. Please see section D.2 of Appendix D for the WISC-III UK sub-tests used in the present study.

The WISC-III UK scores for the Verbal, Performance, and Overall scales are presented in Table 7-3, indicating that means of children were in the average range for Overall IQ, slightly above average for Verbal IQ, and slightly below average for Performance IQ; with an overall broad range of scores observed for each scale.

Table 7-3. Descriptive Statistics for IQ (N = 84).

WISC scales	*Min*	*Max*	*M*	*SD*
Verbal	65	155	104.61	20.51
Performance	46	154	93.87	20.90
Overall	52	146	100.06	20.80

7.4.1.3. Procedure.

7.4.1.3.1. Administration.

A complete description of CAI administration is provided in section 4.4.1.3 of Chapter 4.The WISC-III UK was part of the battery of tests also administered to children during the same or subsequent sessions.

7.4.2. Results.

7.4.2.1. Demographic variables.

As the following analyses will include comparisons in intelligence between the two, three, and four-way classifications, differences in the demographic variables were explored with all the classifications (see Table A-25 in Appendix A for all the results of this section).

The four-way classification for AT showed a significant association between the attachment groups and gender (χ^2 (3, N = 61) = 9.25, p = .024), with more girls in the Secure attachment group, and more boys in the Dismissing group. For the SR, there was a significant difference in age (F (3, 54) = 3.26, p = .028), with older children in the Secure group compared to the Disorganized group (p = .031).

The three-way classification presented significant results only for gender in AT ratings (χ^2 (2, N = 61) = 9.13, p = .011), with more girls in the Secure group and more boys in the Dismissing attachment group. Demographic variables did not differ in the three-way classification for the SR.

The two-way classification did not present any significant differences in the demographic variables for AT, and only significantly differences in the age of the

children for the SR (t (56) = –2.21, p = .031, r =.28), with Secure children showing a higher mean age than Insecure children.

7.4.2.2. Four-way classification.

Non-parametric tests were used to explore the difference in intelligence between the four attachment groups because the Disorganized attachment group in AT ratings presented high levels of deviation from normality in the WISC scale and was composed of only five children (skewness = –2.16 and kurtosis = 4.72). Thus, the one-way ANOVA equivalent in non-parametric tests, the Kruskal-Wallis, was used for this purpose, and the gender covariate could not be included in the analysis.

There were no significant differences between the four attachment groups in the distribution of the WISC Verbal IQ scores (H(3) = 3.36, p = .339), WISC Performance IQ (H(3) = 2.32, p = .508), and the WISC Overall IQ scores (H(3) = 2.79, p = .425). Descriptive statistics for the four groups can be found in Table 7-4.

Table 7-4. Descriptive Statistics [Mean (Standard Deviation)] of the Comparison between Four-Way Attachment Classification and IQ for AT.

		AT – WISC scales		
CAQ attachment	*N*	Verbal IQ	Performance IQ	Overall IQ
Secure	23	110.72 (22.59)	98.04 (17.82)	107.48 (19.69)
Dismissing	24	104.21 (16.93)	99.29 (22.60)	102.17 (20.28)
Preoccupied	9	113.00 (21.87)	91.22 (20.99)	102.50 (20.69)
Disorganized	5	95.00 (17.26)	85.40 (17.71)	89.80 (19.03)
Total	61	107.20 (20.16)	96.49 (20.26)	103.20 (20.09)

The same analyses were conducted for the SR ratings because the Disorganized group was composed of only seven children and presented high levels of kurtosis on the WISC scale (skewness = 0.13 and kurtosis = –5.29). Again, no significant differences were found between the four attachment groups in the distribution of the WISC Verbal IQ scores (H(3) = 4.36, p = .225), WISC Performance IQ (H(3) = 1.63, p = .652), and the WISC Overall IQ scores (H(3) = 5.01, p = .171). Descriptive statistics for the four groups can be found in Table 7-5.

Table 7-5. Descriptive Statistics [Mean (Standard Deviation)] of the Comparison between Four-Way Attachment Classification and IQ for SR.

		SR – WISC scales		
CAQ attachment	*N*	Verbal IQ	Performance IQ	Overall IQ
Secure	18	106.81 (22.53)	94.39 (19.94)	103.06 (18.94)
Dismissing	22	98.09 (17.11)	88.34 (23.84)	92.41 (21.13)
Preoccupied	11	113.27 (22.16)	92.09 (18.57)	103.41 (20.22)
Disorganized	7	97.79 (6.80)	93.07 (9.83)	95.29 (6.78)
Total	58	103.64 (19.68)	91.50 (20.14)	98.15 (19.36)

As indicated in the Table 7-4 and Table 7-5, Disorganized children showed lower IQ scores. Is possible that there is a difference in IQ scores of Disorganized children, however this sample distribution did not allow a significant difference to emerge.

7.4.2.3. Three-way classification.

With the aim of exploring the differences between the three attachment groups in their mean intelligence scores, three ANCOVAs were conducted for AT and three one-way ANOVAs for the SR (as none of the demographic variables were significantly different between the three attachment groups).

Results for AT ratings showed that none of the intelligence scores differed between attachment groups (see Table 7-6) after controlling for gender: WISC Verbal IQ (F (2,57) = 0.43, p = .651, partial η^2 = .02), WISC Performance IQ (F (2,57) = 1.13, p = .331, partial η^2 = .04), and WISC Overall IQ (F (2,57) = 0.78, p = .465, partial η^2 = .03). Gender did not have a significant effect on the analyses (WISC Verbal IQ: F (1,57) = 0.36, p = .850, partial η^2 < .01; WISC Performance IQ: F (1,57) = 0.49, p = .484, partial η^2 = .01; WISC Overall IQ: F (1,57) = 0.13, p = .716, partial η^2 < .01).

Table 7-6. Descriptive Statistics [Mean (Standard Deviation)] of the Comparison between Three-Way Attachment Classification and IQ for AT.

	AT – WISC scales			
CAQ attachment	*N*	Verbal IQ	Performance IQ	Overall IQ
Secure	23	110.72 (22.59)	98.04 (17.82)	107.48 (19.69)
Dismissing	25	104.36 (16.59)	99.00 (22.17)	102.12 (19.86)
Preoccupied	13	106.46 (22.47)	88.92 (20.17)	97.73 (21.18)
Total	61	107.20 (20.16)	96.49 (20.26)	103.20 (10.09)

SR results showed that there were no significant differences in the WISC Verbal IQ intelligence scores between the three groups (F (2,55) = 1.63, p = .206, partial η^2 = .06), or in the WISC Performance IQ (F (2,55) = 0.55, p = .578, partial η^2 = .02), or in the WISC Overall intelligence scores (F (2,55) = 1.86, p = .165, partial η^2 = .06). Descriptive statistics for the three IQ scales in the three CAQ attachment groups can be found in Table 7-7.

Table 7-7. Descriptive Statistics [Mean (Standard Deviation)] of the Comparison between Three-Way Attachment Classification and IQ for SR.

	SR – WISC scales			
CAQ attachment	*N*	Verbal IQ	Performance IQ	Overall IQ
Secure	18	106.81 (22.53)	94.39 (19.94)	103.06 (18.94)
Dismissing	24	98.19 (16.56)	88.21 (22.84)	92.46 (20.33)
Preoccupied	16	108.25 (19.86)	93.19 (16.13)	101.16 (17.13)
Total	58	103.64 (19.68)	91.50 (20.14)	98.15 (19.36)

7.4.2.4. Two-way classification.

In order to explore whether the Secure and Insecure attachment groups differed in intelligence independent *t*-tests were conducted. Results showed that for AT ratings there were no significant results in any of the intelligence scores: WISC Verbal IQ (t (59) = –1.38, p = .174, r = .18), WISC Performance IQ (t (59) = –1.55, p = .127, r = .20), and WISC Overall IQ (t (59) = –1.96, p = .054, r = .25). Mean and standard deviation of the intelligence score in the two attachment groups can be found in Table 7-8.

Table 7-8. Descriptive Statistics [Mean (Standard Deviation)] of the Comparison between Two-Way Attachment Classification and IQ for AT.

		AT – WISC scales		
CAQ attachment	*N*	Verbal IQ	Performance IQ	Overall IQ
Secure	35	110.24 (19.97)	99.91 (19.91)	107.46 (18.67)
Insecure	26	103.12 (20.06)	91.88 (20.18)	97.48 (20.86)
Total	61	107.20 (20.16)	96.49 (20.26)	103.20 (20.09)

As the SR ratings for two-way classification presented significant differences in age, three ANCOVAs were conducted. As expected given that IQ takes age into account, results showed no significant influence of age in any of the intelligence scores (F (1,55) = 0.64, p = .428, partial η^2 = .01 for the WISC Verbal IQ; F (1,55) = 3.44, p = .069, partial η^2 = .06 in the WISC Performance IQ, and F (1,55) = 0.36, p = .552, partial η^2 = .01 for the WISC Overall IQ scores), as well as no difference between the Secure and Insecure attachment groups in any of the three intelligence scales: WISC Verbal IQ (F (1,55) = 0.46, p = .501, partial η^2 = .01), WISC Performance IQ (F (1,55) = 2.71, p = .105, partial η^2 = .05), and WISC Overall IQ (F (1,55) = 2.57, p = .115, partial η^2 = .05). Descriptive statistics can be found in Table 7-9.

Table 7-9. Descriptive Statistics [Mean (Standard Deviation)] of the Comparison between Two-Way Attachment Classification and IQ for SR.

		SR – WISC scales		
CAQ attachment	*N*	Verbal IQ	Performance IQ	Overall IQ
Secure	30	106.00 (20.71)	94.42 (21.74)	101.80 (19.70)
Insecure	28	101.11 (18.56)	88.38 (18.14)	94.23 918.54)
Total	58	103.64 (19.68)	91.50 (20.14)	98.15 (19.36)

7.5. Attachment and Expressive Language

7.5.1. Methods.

7.5.1.1. Participants.

The current sample was comprised of three subsamples from previous chapters (6 children from Group A of Chapter 6, 33 children from Group B of Chapter 6, and 51 children from the sample mentioned above in section 7.4.1.1). The

total sample was composed of 90 children. As shown in Table 7-10 their age ranged 7.1 to 12.5 (with a mean age of 9.8), and children were predominately boys (55%), Caucasian (78%), and from working class SES (64%).

Table 7-10. Demographic Information of the Sample.

Demographic Variables	Sample (*N* = 90)
Age (Years)	
M (*SD*)	9.8 (1.19)
Range	7.1 – 12.5
Males	49 (55%)
Ethnicity[a]	
Caucasian	69 (78%)
Black or mixed	7 (8%)
SES[b]	
Middle class	32 (36%)
Working class	56 (64%)

[a] Ethnicity data missing for 2 children; [b] SES data missing for 2 children

7.5.1.2. Measures.

7.5.1.2.1. Child Attachment Interview (CAI).

Detailed information about the CAI is provided in section 1.3.1.1 of Chapter 1. Please refer to section D.1 of Appendix D for the CAI Protocol.

7.5.1.2.2. Child Attachment Q-sort (CAQ).

Information about the CAQ Training System III is provided in 6.1.2.2.1 of Chapter 6.

7.5.1.2.3. Clinical Evaluation of Language Fundamentals-Revised (CELF-R).

The CELF-R (Semel, Wiig, & Secord, 1987) is a widely used language test developed to measure the language skills of children ages five to 16 years. In the present study, an abbreviated UK version was used, comprised of the following subtests assessing expressive language: (a) Formulated Sentences, (b) Recalling Sentences, and (c) Sentence assembly. For scoring details please refer to Shmueli-Goetz, Target, Fonagy, and Datta (2008) and see sections D.3 of Appendix D for the CELF-R UK sub-tests used in the present study.

For this sample, the expressive language mean score was 95.68, with a standard deviation of 14.36, a minimum of 67 and a maximum of 128.

7.5.1.3. Procedure.

7.5.1.3.1. Administration.

A complete description of CAI administration is provided in section 4.4.1.3 of Chapter 4.The CELF-R was part of the battery of tests also administered to children during the same or subsequent sessions.

7.5.2. Results.

7.5.2.1. Demographic variables.

As in the previous section, possible differences in demographic variables were tested with the two-, three- and four-way classifications (see Table A-26 in Appendix A for all the results of this section).

In the four-way classification, AT ratings had significant differences in age (F (3, 71) = 4.73, p = .005) and gender (χ^2 (3, N = 75) = 8.66, p = .032). Specifically, more girls were in the Secure group and more boys in the Dismissing attachment group; and younger children in the Disorganized attachment group compared to the Secure (p < .003), the Dismissing (p = .029), and the Preoccupied (p = .010) children. The SR, on the other hand, only presented significant differences in age (F (3, 46) = 3.13, p = .035), with significantly younger children in the Disorganized attachment group compared to the Secure group (p = .034) and the Preoccupied group (p = .035).

In the three-way classification, AT ratings differed in gender (χ^2 (2, N = 75) = 8.14, p = .014), with more girls in the Secure group and more boys in the Dismissing group. No significant differences were found in the SR ratings.

In the two-way classification, AT ratings showed significant differences in ethnicity distribution (χ^2 (2, N = 74) = 6.52, p = .031), with a larger proportion of Caucasian Secure children. The SR's attachment groups did not show differences in the demographic variables.

7.5.2.2. Four-way classification.

Non-parametric tests were used to explore the difference in expressive language between the four attachment groups because the Disorganized attachment group was composed of five children, and presented moderate to high levels of deviation from normality (skewness = 1.22 and kurtosis = 2.00). Thus, the Kruskal-Wallis, was used for this purpose. There was not a significant difference between the

four attachment groups in the distribution of the CELF-R scores (H (3, N = 75) = 7.72, p = .052). Descriptive statistics for the four groups can be found in Table 7-11.

Table 7-11. Descriptive Statistics [Mean (Standard Deviation)] of the Comparison between Four-Way Attachment Classification and CELF-R Scores for AT and SR.

	AT		SR	
CAQ attachment	*N*	CELF-R	*N*	CELF-R
Secure	38	97.89 (11.83)	33	97.48 (10.62)
Dismissing	25	95.76 (13.43)	20	90.30 (13.76)
Preoccupied	7	110.29 (10.67)	7	104.29 (18.00)
Disorganized	5	90.40 (24.09)	5	90.40 (24.09)
Total	75	97.84 (13.74)	65	95.46 (14.15)

Regarding the SR ratings, an ANCOVA was conducted because the normality assumptions of the expressive language distribution were closer to normality than in AT ratings (skewness = .83 and kurtosis = –1.01). No significant differences were found between the four attachment groups in the distribution of the CELF-R scores after controlling for age (F (3,60) = 1.82, p = .154). Age did not have a significant effect on the analysis (F (1,60) = 2.20, p = .143, partial η^2 = .04).

7.5.2.3. Three-way classification.

Mean expressive language differences between the three attachment groups were explored with ANCOVA for AT and ANOVA for SR (see Table 7-12 for descriptive statistics in the three attachment groups for AT and the SR). Results showed that for AT ratings, there was not a significant difference in the mean expressive language of the three CAQ attachment groups after controlling for gender (F (2,71) = 2.15, p = .124, partial η^2 = .06). Results also showed that gender made a significant contribution to the prediction of expressive language (F (1,71) = 6.97, p = .010, partial η^2 = .09), with girls presenting a higher expressive language mean than boys.

Table 7-12. Descriptive Statistics [Mean (Standard Deviation)] of the Comparison between Three-Way Attachment Classification and CELF-R Scores for AT and SR.

	AT		SR	
CAQ attachment	*N*	CELF-R	*N*	CELF-R
Secure	38	97.89 (11.83)	33	97.48 (10.62)
Dismissing	27	95.30 (13.40)	23	89.48 (13.73)
Preoccupied	10	104.50 (19.77)	9	103.33 (21.04)
Total	75	97.84 (13.74)	65	95.46 (14.15)

There were significant differences between the three attachment groups in the SR ratings (F (2,62) = 4.16, p = .020, partial η^2 = .12). Post-hoc Tukey tests showed that those differences were only between the Dismissing and Preoccupied attachment groups (p = .030).

7.5.2.4. Two-way classification.

As ethnicity presented a significant association with two-way attachment groups in AT, an ANCOVA was conducted for the following analysis. However, before conducting the analyses ethnicity was transformed into a dichotomous variable in order to have more participants per group. The two groups still differed between the two-way attachment groups (χ^2 (1, N = 74) = 6.04, p = .014), with a larger proportion of Caucasian Secure children. Results showed no differences between the Secure and Insecure attachment groups in the mean expressive language of children (F (1,71) = 1.98, p = .164, partial η^2 = .03), and no significant influence of ethnicity either (F (1,71) = 0.06, p = .813, partial η^2 < .01). Mean and standard deviation of the expressive language in the two attachment groups are shown in Table 7-13.

Table 7-13. Descriptive Statistics [Mean (Standard Deviation)] of the Comparison between Two-Way Attachment Classification and CELF-R Scores for AT and SR.

	AT		SR	
CAQ attachment	*N*	CELF-R	*N*	CELF-R
Secure	51	99.51(12.80)	44	97.39 (13.10)
Insecure	23	94.17(15.58)	21	91.43 (15.69)
Total	74	97.85(13.84)	65	95.46 (14.15)

Finally, there were no significant differences between the two CAQ attachment groups in the SR ratings in the expressive language scores (F (1,63) = 2.58, p = .113, partial η^2 = .04).

7.6. Attachment and Psychopathology

7.6.1. Methods.

7.6.1.1. Participants.

The current sample was comprised of three subsamples from previous chapters (32 children from Group A of Chapter 6, 33 children from Group B of Chapter 6, and 47 children from the sample mentioned above in section 7.4.1.1). As presented in Table 7-14 the total sample was composed of 112 children, whose age ranged from 7.1 to 12.5 (with a mean age of 9.7), were predominantly boys (55%), Caucasian (79%), and working class (63%).

Table 7-14. Demographic Information of the Sample.

Demographic Variables	Sample (N = 112)
Age (Years)	
M (*SD*)	9.7 (1.17)
Range	7.1 – 12.5
Males	61 (55%)
Ethnicity[a]	
Caucasian	85 (79%)
Black or mixed	8 (7%)
SES[b]	
Middle class	40 (37%)
Working class	69 (63%)

[a] Ethnicity data missing for 4 children; [b] SES data missing for 3 children

7.6.1.2. Measures.

7.6.1.2.1. Child Attachment Interview (CAI).

Detailed information about the CAI is provided in section 1.3.1.1 of Chapter 1. Please refer to section D.1 of Appendix D for the CAI Protocol.

7.6.1.2.2. Child Attachment Q-sort (CAQ).

Information about the CAQ Training System III is provided in 6.1.2.2.1 of Chapter 6.

7.6.1.2.3. Child Behavior Checklist (CBCL).

The CBCL (Achenbach & Edelbrock, 1981; Achenbach & Edelbrock, 1983; Achenbach, 1991) is a widely used, standardized instrument with sound psychometric properties used to assess behavior problems in children between the ages of four to 18. The CBCL is comprised of 118 items scored on a 3-point scale (*not true, somewhat or sometimes true, or very true or often true*) by parents, requiring about 15 minutes to complete. The revised CBCL yields a Total behavior problem scores and scores on nine subscales, adding specified scales yields a score for Internalizing and Externalizing behavior problems. The standardized *T* scores provided by the CBCL with a mean of 50 and a standard deviation of 10 were used.

The CBCL *T* scores for the Internalizing, Externalizing and Total scales are presented in Table 7-15.

Table 7-15. Descriptive Statistics for CBCL. (*N* = 112)

CBCL scales	*Min*	*Max*	*M*	*SD*
Internalizing	33	86	57.28	12.39
Externalizing	30	82	53.04	12.81
Overall	24	84	54.68	13.99

7.6.1.3. Procedure.

7.6.1.3.1. Administration.

A complete description of CAI administration is provided in section 4.4.1.3 of Chapter 4. The CBCL was part of the battery of tests concurrently administered to parents.

7.6.2. Results.

7.6.2.1. Demographic variables.

As in the previous two sections, possible differences in demographic variables were tested with the two-, three- and four-way classifications (see Table A-27 in Appendix A for all the results of this section).

In the four-way, there was a significant difference between the groups in AT ratings in the mean age (F (3, 86) = 3.80, p = .013), and a significant association with

gender (χ^2 (3, N = 90) = 14.39, p = .002). Specifically, the Disorganized attachment group included younger children than the Secure group (p = .008), and there was a higher frequency of girls in the Secure group and boys in the Dismissing group. Regarding the SR, there was a significant difference between the attachment groups in age (F (3, 57) = 2.84, p = .046), with older children in the Secure attachment group compared to the Disorganized group (p = .030).

In the three-way, AT ratings presented a significant association with gender (χ^2 (2, N = 90) = 14.44, p = .001). Specifically, there were more girls in the Secure group and more boys in the Dismissing group. In the SR, gender also presented a significant association with the attachment groups (χ^2 (2, N = 61) = 9.31, p = .010), with a higher frequency of girls in the Secure group.

In the two-way classification, in AT ratings there was a significant association of attachment groups with gender (χ^2 (1, N = 90) = 4.57, p = .033), with a larger proportion of girls in the Secure group compared to the Insecure group. There was also a significant association between attachment groups and ethnicity (χ^2 (2, N = 87) = 6.43, p = .041), with a predominance of Caucasian Secure children. In the SR, there were significant differences between the Secure and Insecure CAQ attachment groups in age (t (55.95) = –2.70, p = .009) and gender (χ^2 (1, N = 83) = 5.79, p = .016). Specifically, the Secure group was composed of older children than the Insecure group, and also the Secure group was composed of more girls than the Insecure group.

7.6.2.2. Four-way classification.

Although there were doubts about the normal distribution of AT's CBCL scores because of the sample size of the groups, when assumptions were checked skewness and kurtosis were in an acceptable range in all the groups. Hence, three ANCOVAs were conducted with the CBCL scores of AT as dependent variable, the attachment groups as predictors, and age and gender as covariates. Bonferroni correction was applied to the p value in order to control for familywise error, and it was set to .02 (.05 / 3 = .02). None of the ANCOVAs presented differences between the four attachment groups after controlling for age and gender (Internalizing CBCL scores: F (3,84) = 1.88, p = .140, partial η^2 = .06; Externalizing CBCL scores: F (3,84) = 1.94, p = .130, partial η^2 = .07, and Total CBCL scores: F (3,84) = 2.06, p = .112, partial η^2 = .07). Age did not have a significant effect on the analyses

(Internalizing CBCL scores: F (1,84) = 0.03, p = .856, partial η^2 < .01; Externalizing CBCL scores: F (1,84) = 2.96, p = .089, partial η^2 = .03; Total CBCL scores: F (1,84) = 1.63, p = .687, partial η^2 < .01) neither did gender (Internalizing CBCL scores: F (1,84) = 0.97, p = .328, partial η^2 = .01; Externalizing CBCL scores: F (1,84) = 0.73, p = .394, partial η^2 < .01; Total CBCL scores: F (1,84) = 0.01, p = .934, partial η^2 < .01). Descriptive statistics for the four groups can be found in Table 7-16.

Table 7-16. Descriptive Statistics [Mean (Standard Deviation)] of the Comparison between Four-Way Attachment Classification and CBCL Scores for AT.

		AT – CBCL scales		
CAQ attachment	*N*	Internalizing	Externalizing	Total
Secure	42	52.62 (12.21)	49.19 (12.48)	49.38 (13.21)
Dismissing	29	58.00 (10.90)	49.24 (10.22)	52.45 (12.54)
Preoccupied	11	57.73 (10.57)	55.64 (12.09)	58.09 (14.31)
Disorganized	8	57.75 (8.71)	60.50 (8.04)	60.88 (8.49)
Total	90	55.43 (11.47)	51.00 (11.81)	52.46 (13.16)

SR's attachment groups contained more than 10 people in each group; however, because of the high levels of normality deviation for the Preoccupied group in the CBCL scores (skewness = –1.35 and kurtosis = 2.67) it was decided to use non-parametric statistics. Thus, ANCOVAs were replaced by the one-way ANOVA equivalent in non-parametric tests, the Kruskal-Wallis. Bonferroni correction was applied to the significance level (p value was set to .02).

There was a significant difference between the four attachment groups in the distribution of the Internalizing CBCL scores (H (3, N = 83) = 15.05, p = .002). Post-hoc analysis showed that the differences were between the Secure and Dismissing attachment groups (U = 23.37, p = .001), with higher Internalizing scores for Dismissing children, as reported by mothers. There were also significant differences between the distributions of scores in the four attachment groups in the Total CBCL score (H (3, N = 83) = 11.89, p = .008). Post-hoc analysis showed that the differences were also between the Secure and Dismissing attachment groups (U = 19.09, p = .013). The Externalizing CBCL scores did not present a significant difference between the four attachment groups (H (3, N = 83) = 7.40, p = .060).

Table 7-17. Descriptive Statistics [Mean (Standard Deviation)] of the Comparison between Four-Way Attachment Classification and CBCL Scores for SR.

		SR – CBCL scales		
CAQ attachment	*N*	Internalizing	Externalizing	Total
Secure	35	51.89 (11.84)	49.83 (11.67)	50.03 (12.30)
Dismissing	26	64.50 (11.38)	57.35 (13.34)	61.12 (14.33)
Preoccupied	12	61.33 (12.26)	58.42 (12.80)	60.75 (14.11)
Disorganized	10	56.30 (10.72)	58.30 (11.28)	58.10 (11.21)
Total	83	57.73 (12.71)	54.45 (12.75)	56.02 (13.90)

7.6.2.3. Three-way classification.

The differences in the mean scores of the CBCL scores between the three attachment classifications were explored with three ANCOVAs, which included as a covariate the demographic variable that was significant in AT ratings (i.e., gender). Results showed no significant results after Bonferroni correction when controlling for gender differences: Internalizing CBCL scores (F (2,86) = 2.97, p = .057, partial η^2 = .07); Externalizing CBCL scores (F (2,86) = 2.36, p = .100, partial η^2 = .05), and Total CBCL scores (F (2,86) = 3.09, p = .050, partial η^2 = .07). Gender did not have a significant effect on the analyses (Internalizing CBCL scores: F (1,86) = 1.00, p = .320, partial η^2 = .01; Externalizing CBCL scores: F (1,86) = 0.57, p = .453, partial η^2 < .01; Total CBCL score: F (1,86) = 0.01, p = .916, partial η^2 < .01). Descriptive statistics for the three CBCL scales in the three attachment groups for AT ratings can be found in Table 7-18.

Table 7-18. Descriptive Statistics [Mean (Standard Deviation)] of the Comparison between Three-Way Attachment Classification and CBCL Scores for AT.

		AT – CBCL scales		
CAQ attachment	*N*	Internalizing	Externalizing	Total
Secure	42	52.62 (12.21)	49.19 (12.48)	49.38 (13.21)
Dismissing	32	57.66 (10.64)	50.22 (10.43)	53.13 (12.33)
Preoccupied	16	58.38 (9.88)	57.31 (11.13)	59.19 (12.71)
Total	90	55.43 (11.47)	51.00 (11.81)	52.46 (13.16)

Regarding the SR, results indicated that the three attachment groups differed in the mean internalizing CBCL scores after controlling for gender and after Bonferroni correction (F (2,79) = 7.15, p = .001, partial η^2 = .15). Post-hoc tests with

Bonferroni adjustment showed that the differences were between the Secure and Dismissing groups (p = .002), and between the Secure and Preoccupied groups (p = .035). The Total CBCL scores also showed a significant difference between the three attachment groups for the SR after controlling for gender (F (2,79) = 4.77, p = .011, partial η^2 = .11). Post-hoc tests with a Bonferroni adjustment showed that the difference was between the Secure and Dismissing groups (p = .018). No significant differences were found between the attachment groups in the Externalizing CBCL scores (F (2,79) = 2.82, p = .065, partial η^2 = .07). Gender did not have a significant effect on the analyses (Internalizing CBCL scores: F (1,79) = 0.08, p = .783, partial η^2 < .01; Externalizing CBCL scores: F (1,79) = 2.40, p = .126, partial η^2 = .03; Total CBCL score: F (1,79) = 1.13, p = .292, partial η^2 = .01). Table 7-19 displays the mean and standard deviation of all the CBCL scales in the three-way attachment classification.

Table 7-19. Descriptive Statistics [Mean (Standard Deviation)] of the Comparison between Three-Way Attachment Classification and CBCL Scores for SR.

		SR – CBCL scales		
CAQ attachment	*N*	Internalizing	Externalizing	Total
Secure	35	51.98 (11.84)	49.83 (11.67)	50.05 (12.30)
Dismissing	30	62.67 (12.02)	57.10 (12.90)	60.27 (14.06)
Preoccupied	18	60.98 (11.35)	59.00 (12.24)	60.61 (12.82)
Total	83	57.73 (12.71)	54.45 (12.75)	56.02 (13.90)

7.6.2.4. Two-way classification.

As ethnicity and gender presented a significant association with two-way attachment groups in AT, an ANCOVA was conducted for the following analysis. Before conducting the analyses and in order to have more participants per group, ethnicity was transformed into a dichotomous variable. The two groups still differed between the two-way attachment groups (χ^2 (1, N = 87) = 6.18, p = .013), with a larger proportion of Caucasian Secure children. The two-way CAQ attachment classification presented significant results in the Internalizing CBCL scale after controlling for gender and ethnicity and applying Bonferroni correction in AT ratings. Specifically, the Insecure attachment group had a significantly higher Internalizing CBCL mean (F (1,83) = 6.02, p = .016, partial η^2 = .07) than the Secure group. Externalizing CBCL mean differences between Secure and Insecure

attachment failed to be significant after Bonferroni correction (F (1,83) = 2.60, p = .111, partial η^2 = .01), as well as Total CBCL differences (F (1,83) = 5.18, p = .026, partial η^2 = .06). Neither of the covariates had a significant effect on the analyses (Gender: Internalizing CBCL scores: F (1,83) = 0.39, p = .534, partial η^2 < .01; Externalizing CBCL scores: F (1,83) = 0.35, p = .556, partial η^2 < .01; Total CBCL score: F (1,83) < 0.01, p = .988, partial η^2 < .01; Ethnicity: Internalizing CBCL scores: F (1,83) = 0.22, p = .639, partial η^2 < .01; Externalizing CBCL scores: F (1,83) = 0.81, p = .370, partial η^2 = .01; Total CBCL score: F (1,83) = 1.89, p = .173, partial η^2 = .02). Descriptive statistics can be found in Table 7-20.

Table 7-20. Descriptive Statistics [Mean (Standard Deviation)] of the Comparison between Two-Way Attachment Classification and CBCL Scores for AT.

		AT – CBCL scales		
CAQ attachment	*N*	Internalizing	Externalizing	Total
Secure	58	53.07 (11.51)	48.74 (11.62)	49.22 (12.44)
Insecure	29	59.76 (10.71)	54.28 (11.05)	57.21 (12.68)
Total	87	55.30 (11.63)	50.59 (11.67)	51.89 (13.01)

Finally, the same analyses were repeated for the SR ratings in the three CBCL scales and the two-way attachment classification with a Bonferroni correction. Results indicated that, after controlling for age and gender, the Insecure attachment group had a significantly higher mean score in the Internalizing CBCL scale (F (1,79) = 8.44, p = .005, partial η^2 = .10), and a significantly higher mean in the Total CBCL scale (F (1,79) = 6.50, p = .013, partial η^2 = .08) compared to the Secure group. There were no significant differences in the mean of the Externalizing CBCL scale after Bonferroni correction (F (1,79) = 4.79, p = .032, partial η^2 = .06). Age did not have a significant effect on the analyses (Internalizing CBCL scores: F (1,79) = 0.32, p = .576, partial η^2 < .01; Externalizing CBCL scores: F (1,79) = 0.42, p = .519, partial η^2 = .01; Total CBCL scores: F (1,79) = 0.00, p = .981, partial η^2 < .01) neither did gender (Internalizing CBCL scores: F (1,79) = 0.00, p = .980, partial η^2 < .01; Externalizing CBCL scores: F (1,79) = 2.96, p = .089, partial η^2 = .04; Total CBCL scores: F (1,79) = 1.62, p = .207, partial η^2 = .02). Descriptive statistics can be found in Table 7-21. As the abovementioned results seemed to indicate that the ratings of the SR were potentially contaminated by children's behavior problems, subsequent analysis only including the ratings of AT.

Table 7-21. Descriptive Statistics [Mean (Standard Deviation)] of the Comparison between Two-Way Attachment Classification and CBCL Scores for SR.

		SR – CBCL scales		
CAQ attachment	*N*	Internalizing	Externalizing	Total
Secure	49	54.39 (12.16)	61.06 (12.25)	52.22 (13.04)
Insecure	34	62.56 (12.08)	59.32 (12.01)	61.50 (13.43)
Total	83	57.73 (12.71)	54.45 (12.75)	56.02 (13.90)

7.6.2.1. Behavioral problems and attachment security prediction.

As significant differences were observed for the ratings of AT between Secure and Insecure children with respect to Internalizing CBCL scores, assessment of the contribution of that variable to predicting security of attachment was conducted. Due to demographic variables differing in relation to attachment security, the variables of gender and ethnicity were included as covariates. In Block 1 of the regression, the dichotomous attachment variable (i.e., Secure versus Insecure) was entered as the dependent variable with the demographic variables. Internalizing CBCL scores were entered into Block 2 of the prediction equation to examine if adding the abovementioned variable to the model made a significant contribution to predicting security of attachment.

Regarding AT analyses, the model in Block 1 was significant (χ^2 (2, N = 87) = 10.72, p = .005), but only a small improvement in prediction from 66.7% (only entering the constant into the prediction equation) to 71.3% was observed. Gender and ethnicity were significant predictors (Wald χ^2 (1, N = 87) = 4.61, p = .032 and Wald χ^2 (1, N = 87) = 5.29, p = .021, respectively), indicating that the likelihood of being judged Secure was increased with being a female or Caucasian. In Block 2, adding Internalizing CBCL scores as the predictor of attachment security, did not improve prediction.

7.7. Discussion

Discriminant validity constitutes an important aspect of evaluating the psychometric properties of an instrument. Attachment representations as coded by the CAQ were examined in relation to intelligence, linguistic ability, and behavioral problems among a sample of children drawn from both clinical and non-clinical populations. The current study explored these relationships beyond the Secure-

Insecure split to see if there was a differentiation within Insecure organized groups and when Disorganized attachment was included. This contribution was considered important because most research in middle childhood seems to focus on the Secure-Insecure split (Del Giudice, 2009) with minimal attention to Dismissing, Preoccupied, and Disorganized attachment, so including these may reveal substantial differences that would be lost if analysis only included the Secure-Insecure dimension. The codings of an expert rater (AT) and a randomly selected single rater (SR) were both included in the analysis to examine if validity was similar. The findings for each of these studies are discussed below.

7.7.1. Attachment and Intelligence.

Preliminary analysis concerning differences in demographic variables between the attachment groups indicated that for AT ratings more girls were assigned to the Secure category for both four- and three-way classification, and more boys to the Dismissing category for four-way classification. These findings are consistent with research in infancy where higher scores of attachment security were reported for girls (Aber & Baker, 1990) and in toddlerhood where more boys were classified as Avoidant (Ziv, Aviezer, Gini, Sagi, & Karie, 2000). Granot and Mayseless (2001) have similarly reported findings in middle childhood, with a higher prevalence of Secure attachment in girls and Avoidant attachment in boys for four-way classifications. For the SR, older children were more likely to be assigned a Secure attachment classification compared to the Disorganized classification for four-way classification and for the Secure versus Insecure split, where Secure children were older than their Insecure counterparts. Green and colleagues (2000) similarly reported a tendency for older children to receive lower ratings of Disorganization, giving extra weight to the idea that Disorganization of attachment representations has an element of developmental immaturity and does not simply reflect disruption of attachment.

The findings concerning attachment classification and intelligence indicated that for both the expert coder and the trained single coder there were no significant differences in Verbal, Performance, and Overall IQ scores for children across the four-, three- and two-way attachment classifications. The absence of an association found in the current study is consistent with the findings reported by Shmueli-Goetz and colleagues (2008) using the original coding and classification system of the CAI

and with the cohort of researchers that similarly reported an absence or weak associations between attachment and IQ (McCarthy, 1998; Moss & St-Laurent, 2001; Van IJzendoorn & Kroonenberg, 1988; Wintgens et al., 1998). However, the findings of the current study stand in contrast to researchers reporting an association between verbal IQ and attachment (Verschueren & Marcoen, 1999; Easterbrooks & Abeles, 2000). The latter findings reporting an association between verbal intelligence and attachment could lead to the conclusion that the reason a child appears Secure is because he/she is more coherent and articulate, however this notion has not been adequately supported and the findings of the current study certainly cast doubt on such an association.

Another possible reason that no relationship between attachment and IQ was found in the present study is that attachment and intelligence may not be related above a certain level, meaning that children with very low intelligence would not be able to understand the questions of the CAI. A strength of the current study is that during recruitment of participants for the large AFC study, children with an IQ below 70, indicative of below average IQ, were not included. This exclusion criterion eliminated a group where there would be substantial comprehension differences, and whose inclusion could have potentially introduced a confounding variable because due to poor comprehension most would have been assigned an Insecure attachment classification. If this data was included a spurious association between intelligence and attachment may have been observed that was actually due to lack of comprehension or expressive ability and not due to an association between IQ and attachment itself.

In summary, the absence of a relationship between IQ and attachment does provides support for the discriminant validity of the CAQ, as the findings indicated that IQ does not confound observed differences in internal representations of attachment and that the CAQ is indeed coding and classifying attachment and not intelligence. Despite the promising results, it is important to acknowledge that findings should be interpreted with caution as a potential limitation of using an abbreviated version of the WISC in the current study could have led to inadequate measurement of intelligence and resulted in the absence of an association between attachment and intelligence. Unfortunately, this was an inherited limitation of the dataset used that could not be addressed, but future studies should aim to administer the complete version of the WISC and to further assess discriminant validity of the

CAQ. Also, the fact that findings were similar for both coders cautiously indicates that using the current CAQ Training System, the codings of a naïve coder, without expert knowledge in attachment, provide valid results.

7.7.2. Attachment and Expressive Language.

Similarly to the preliminary analysis of the previous study, in the current sample differences in demographic variables between the attachment groups indicated that for AT ratings of four-, three- and two-way categorization, more girls were classified as Secure than boys, whereas, for four- and three-way, more boys were classified as Dismissing. In addition, regarding four-way classification, younger children were more likely to be characterized as Disorganized, in comparison to the other three attachment groups for both AT and the SR. Differing from the findings of the previous study, for the two-way classification of AT ratings Caucasian children were more likely to be classified as Secure. The latter finding is in line with the higher attachment security observed among two year old Caucasian children by Bakermans-Kranenburg, Van IJzendoorn, and Kroonenberg (2004).

Overall, examining the relationship between attachment category and expressive language indicated that for both raters there was no significant difference between expressive language and attachment for four- and two-way classifications. Concerning three-way classification, no association was observed for the expert coder, however for the single coder, a significant difference emerged between Dismissing and Preoccupied children, with higher scores observed for the latter attachment group. The fact that findings between the two coders differed for three-way classification could be attributed to the following factors. First, about one third of the cases coded between the two individuals were different. Second, given the non-knowledge of attachment by the naïve coder, the coder could have been influenced by verbal fluency or talkativeness of children and code these children as Preoccupied. AT on the other hand, considered an expert coder for the purposes of the present thesis, focused more on attachment indicators rather than talkativeness of the child and scored accordingly and appropriately. As the absence of an association was consistently observed for the expert coder across four-, three-, and two-way classifications and there was agreement between coders for both four- and two-way classification, the significant difference observed for the single coder for three-way classification was not considered indicative of an association with attachment.

Instead it points to the limitation of naïve raters to be distracted by characteristic of the child that are not related to attachment, in this case language fluency.

The association between attachment and expressive language has only been assessed during middle childhood by the developers of the CAI and the results yielded by the two-way classification in the current study are in line with the findings reported by the original CAI coding system (Shmueli-Goetz et al., 2008), where no significant differences in expressive language were found between Secure and Insecure children. Shmueli-Goetz, Target, Fonagy and Datta (2008), do not report the three- and four -way attachment classification in relation to expressive language. The findings of the present study are in contrast to the findings of Van IJzendoorn, Dijkstra, and Bus (1995), who reported a significant association between language ability and Security of attachment, leading to the conclusion that language abilities of a developing child seem to be stimulated when attachment relationship between a parent and child is Secure. However, this association was examined only for the Secure versus Insecure dimension and for a much younger age group.

The findings of the current study offer preliminary support for the discriminant validity of the CAQ. Although the current sample was small, results suggest that attachment is an independent construct and that attachment differences observed are due to differences in internal representations of attachment not attributable to variations in expressive language. Further, the fact that findings were the same with the original CAI system indicates that the CAQ demonstrates at least comparable validity. An interesting continuation of the current study would be to compare the findings of the CAQ concerning expressive language to other measures of attachment with different methodological approaches.

7.7.3. Attachment and Psychopathology.

Similar to the findings of the previous two studies, differences in demographic variables between the attachment groups indicated that for both coders older children displayed less Disorganized attachment for the four-way classification, and more girls were classified as Secure for four-, three-, and two-way classification. For AT more boys were classified as Dismissing in both four- and three-way classification, and for the SR, older children were more likely to be classified as Secure in the two-way classification. For AT for two-way classification Caucasian

children were more likely to be classified as Secure. These findings have been discussed in the two preceding sections.

For the assessment of discriminant validity of the CAQ in relation to psychopathology, only the scores of AT, the expert rater, were used because the codings of the naïve coder (single rater) seemed to be influenced by behavior problems of children. Specifically, assessment of the relationship between attachment and behavioral problems indicated that for problems of Internalizing, Externalizing, and Total behavior did not yield any differences for AT for either four- or three-way attachment classification. However, regarding the SR for four- and three-way attachment classification, the Secure and Dismissing children differed significantly on both Internalizing and Total scores, but not for Externalizing scores. This indicated that Dismissing children were rated by their mothers as exhibiting more withdrawn and anxious/depressive behavior and overall as displaying more problematic behavior than Secure children. In addition, for three-way classification, a significant difference was observed for the Internalizing scores of the Secure and Preoccupied groups, where mothers of Preoccupied children assigned higher scores of Internalizing behavior problems. The fact that the naïve coder reported different results than the expert coder (AT) could be attributed to the codings of the SR being contaminated by behavior problems such as anxiety or depression displayed by the child during the interview, possibly resulting in more Dismissing and Preoccupied codings.

Another way of looking at this is that the behavior of the child that results in high CBCL symptom scores, in other words, the behavior that makes the parent find the child more difficult may also arise during the interview. When AT was coding such interviews, there was greater ability to acknowledge and ignore such behavior because it was not considered relevant to attachment coding. On the other hand, the naïve coder was more likely affected and Q-sorted the attachment items influenced by the child being difficult in ways unrelated to attachment, hence resulting in these mixed findings. These preliminary findings cast doubt on the ability of the naïve coder to distinguish between behavioral disturbances and Security of attachment in the observed interview. The relationships observed between behavior problems and attachment using the codings of the naïve coder seems not to be related with attachment, since the naïve coder might have been distracted by evidence of emotional behavioral symptoms and coding those as Insecurity. The findings suggest

that there exist limitations of having naïve coders using the CAQ when examining the association between attachment and psychopathology, even though they seem to be able to code attachment behavior when there are fewer concurrent symptoms. This limitation could be alleviated by improvement in the training manual, drawing attention to the need not to be affected by symptoms such as anxiety or hyperactivity, except when coding specifically relevant items.

Discriminant validity of the CAQ was then assessed using the codings of the expert rater (AT). Overall, the findings showed discriminant validity of the CAQ regarding attachment and psychopathology. No association was observed for three- and four-way classification, however for two-way classification, Insecure children were reported by parents to display more Internalizing behavior problems than their Secure counterparts. This suggests that overall Insecure children displayed more withdrawn, anxious, and depressive behavior, or that parents saw more indications of these. The associations between attachment security and Externalizing and Total CBCL behavior problems were not significant. Although an association was observed between Internalizing behavior problems and attachment Security, further analysis, through logistic regression, indicated that Internalizing behavior does not contribute to the prediction of attachment. Rather results indicated that the demographic variables of age and ethnicity were the best predictors of attachment security. These findings offer support for the discriminant validity of the CAQ, by showing that it is attachment that is being measured and not behavioral problems. However, it is important to note that validity is only adequate when the coder has more experience in recognizing attachment. This draws attention to the fact that further studies are needed examining the ability of a naïve coder to achieve valid codings when behavioral problems are present in children. In addition, these findings indicate that training may need to be improved to guide coders away from getting confused by symptoms of psychopathology and focus on items.

Overall, the findings of the current study were in line with results reported using the original coding system of the CAI for the association between Insecure attachment and Internalizing behavior problems. This suggests that the discriminant validity of CAQ is analogous to the CAI original coding system, although using a different approach to coding and classified interviews to assess the mental representation of children during middle childhood.

In comparison to other studies, the present findings seem to be reflective of the existing complex and conflicting picture portrayed by the literature on attachment and psychopathology. As previously mentioned, the Secure children in the current study displayed less Internalizing behavioral problems and no difference was observed for Overall behavioral problems, contrary to the work of Green and colleagues (2000) for the former and similar to the latter. In contrast to the current findings, using a high risk sample diagnosed with ODD and CD, Green, Stanley and Peters (2007) found no difference between the Secure and Insecure groups concerning psychopathology. The present findings seemed to contradict the meta-analytic results reported Fearon and colleagues (2010) indicating that Insecure attachment is related to Externalizing behavior, whereas in the current study no association was observed. Therefore, from the findings of the present study the tentative conclusion can be drawn that Insecure children display increased problems in Internalizing behavior (or that their parents are more sensitive to this). As findings in this area have been quite mixed, it is necessary that further studies are conducted examining the association between psychopathology and attachment, focused towards homogeneity across studies allowing for more meaningful comparisons, and seeking direct observation and/or other more neutral informants such as teachers.

Although the findings are unclear in this area it seems that Insecure attachment cannot be considered synonymous to psychopathology, meaning that if a child is Insecurely attached this does not necessarily mean that a child will later develop behavioral problems nor that a child with behavioral problems cannot be Securely attached. Note that the actual mean levels of Internalizing symptoms reported for Insecure children were not within the clinical range. Instead, Insecure attachment could be a risk factor running along parallel lines with other contributing factors in the trajectory of a child's life, where the pathway can diverge into manifestations of Externalizing or Internalizing behavior problems (DeKlyen & Greenberg, 2008). Aside from attachment there are three other general risk factors contributing to the development of psychopathology: (a) characteristics of the child, such as biological or cognitive problems; (b) parenting style and socialization; and (c) family environment, such as social support within and outside of the family, stress and traumatic events within the family (DeKlyen & Greenberg, 2008). It could be sustained therefore that other factors are influencing the relationship between

quality of attachment to caregivers and psychopathology and looking at this association as being linear will continue to lead to conflicting findings.

A potential limitation of the current study is that characteristics of the child, information about parenting style and/or socialization and family ecology were not included in the original AFC dataset. However, as delineating pathways between attachment and psychopathology were beyond the scope of the present study, future studies using the CAQ could aim to address this particularly interesting research topic. A further limitation of the current study is that assessment of behavioral problems relied on mothers as the only informant. Future studies should include assessment of behavioral problems from both parents (if possible) and preferably another informant (e.g., a teacher), with agreement between informants being examined before conducting analyses, to as to assess if there are any differences that may potentially influence results.

A further limitation is that the sample of children used in the current study lacked representativeness. More specifically, although there were children from a clinical population included, overall the sample could be characterized as 'relatively healthy' because the range and severity of clinical presentation was limited. Also, the sample was limited in terms of children coming from disadvantaged backgrounds and varied ethnic backgrounds. Furthermore, the restricted nature of the sample in terms of clinical severity and disadvantaged backgrounds resulted in a low frequency of insecure attachment classification, particularly observed for Preoccupied and Disorganized attachment. Lastly, the small samples used for each of the analyses in the current study and the low frequency observed for children classified as Preoccupied and Disorganized may have affected the statistical power and the findings of the present study. Hence, the conclusions drawn from the present findings should be interpreted with caution until further studies are conducted. Future studies, addressing these limitations will be discussed in Chapter 9.

7.7.4. Conclusions.

To conclude, the findings of the present chapter offer support for the discriminant validity of the CAQ coding system, as an alternative way of coding both verbal and non-verbal behavior of children's responses to the questions of the CAI. Examining the relationship between attachment with intelligence and expressive language supported the hypothesis that attachment is an independent construct and

that the CAQ, similarly to the original CAI coding system, is indeed measuring attachment and no other related constructs. In addition, the overall similar findings between the expert and naïve coder, cautiously offer support that the current training system for the CAQ is capable of providing a person will limited knowledge in attachment the ability to yield coding results comparable to a highly trained coder. Further, the CAQ has exhibited validity as an instrument for measuring attachment largely distinct from psychopathology. However, there was a suggestion that naïve coders might have difficulty in recognizing the distinction. In the next chapter the concurrent and predictive validity of the CAQ will be assessed.

Chapter 8: Concurrent and Predictive Validity of CAQ

Previous chapters have offered support for the reliability and discriminant validity, of the Child Attachment Q-sort. This present chapter will examine predictive and concurrent validity by comparing the CAQ with other measures of attachment.

8.1. Concurrent Validity

Assessment of concurrent validity seems to be a recurrent problem throughout the history of attachment measure development. This is particularly noticeable in middle childhood where an adequately validated instrument of gold standard status does not yet exist. Nevertheless concurrent validity is an important aspect of assessing a new instrument, even if comparable instruments may be measuring different aspects of the same construct, they are assessing the same domain and could provide useful information for future directions.

Attachment measures used for children in early childhood have relied on separation-reunion procedures to validate instruments. For instance, a study by Slough and Greenberg (1990) comparing separation-reunion responses of five year olds and dimensions of the SAT aiming to validate the SAT, demonstrated strongest relationships between the short separation reunion responses and the avoidance scale, with only weak agreement for scores on the attachment scale. In contrast, long term separation reunion responses showed very poor association with the SAT dimensions. The authors attributed the latter findings to order effects of the two separation-reunion procedures or to participant fatigue.

More recent studies in early and middle childhood have used the SAT to assess the concurrent validity of newer measures. Specifically, Goldwyn and colleagues (2000) used the SAT to validate the newly developed MCAST and found a moderate association with a kappa of .41 ($p < .01$, 80% agreement) for two-way classifications. Similarly, concurrent classification on CAI and SAT were compared, yielding reasonable concordance with a kappa of .36 ($p < .005$, 64% agreement) for three-way classifications (Shmueli-Goetz et al., 2008).

The findings mentioned above indicated that this is a rather problematic type of validation to assess and this was created by the lack of a benchmark test (Kline,

2000) in this field and age group. These findings contributed to the notion that there exists lack of validation among attachment instruments for middle childhood. Therefore, development of an instrument to fill this gap could be considered as being necessary, although difficult to validate concurrently.

8.2. Predictive Validity

Researchers have strongly focused on assessing the ability of the AAI (George et al., 1985) to predict the attachment classification of infants using the SSP (Ainsworth et al., 1978). Although there seems to be consensus regarding this association, a review of the literature has indicated a rather mixed picture (Goldwyn et al., 2000; Zeanah et al., 1993) emphasizing the need for further research in this area, particularly in the years following infancy.

A meta-analysis using various types of studies (i.e., retrospective, concurrent, and prospective) by Van IJzendoorn (1995) on the predictive validity of the AAI reported moderate concordance for four- ($\kappa = .42$, 63% correspondence), three- ($\kappa =$ 46, 70% correspondence) and two-way ($\kappa = .49$, 74% correspondence) attachment classifications between mothers and infants, with Preoccupied attachment being the least predictive classification. Concerning Preoccupied attachment, it is interesting to note that four of the nine studies included in analysis of four-way classification found no association between Preoccupied parents and Ambivalent/resistant children and three of the thirteen studies used to analyze three-way classifications did not have any Preoccupied parents or Ambivalent/resistant children in their samples. Overall Preoccupied and Ambivalent/Resistant participants displayed the lowest frequency and in particular this was more noticeable with four-way classification where Unresolved attachment classification for adults and Disorganized/disorientated classification for infants were included. Therefore, this could have created a ceiling effect (Van IJzendoorn, 1995) thus leading to the rather modestly positive observed results.

Assessing this relationship retrospectively, Main, Kaplan and Cassidy (1985) compared the attachment status of parents and infants by administering the SSP to children between the ages of 12 to 18 months and interviewing parents using the AAI about five years later. The results indicated strong correlation between maternal and infant attachment classifications ($r = .62$, $p < .001$), however for the father the

correlation was quite lower (r = .37, p < .05). Zeanah and colleagues (1993) concurrently assessed attachment between 60 mother-infant dyads using the AAI and SSP and found substantial agreement with a kappa of .64 (75%) for three-way classifications. Looking specifically at each attachment category, agreement was substantial for Secure (κ = .75) and almost perfect for Dismissing (κ = .88), however for Preoccupied parents and Ambivalent/resistant infants concordance was unexpectedly weak and negative (κ = - .17), where most frequently Preoccupied parents had children classified as Secure.

Examining this association prospectively, Fonagy, Steele, and Steele (1991) administered the AAI to 100 mothers during pregnancy and the SSP to infants a year after birth. Agreement for three-way classification was reasonable and significant (κ = .38, $p \leq .001$, 66%) and for two-way classification the association was moderate and significant (κ = .48, $p \leq .001$, 75%). Examination of concordance within each category of the three-way classification indicated concordance for Secure and Dismissing mother-infant dyads, however discordance was observed for Preoccupied attachment, where only 20% of infants were classified as Ambivalent/resistant, with the majority being classified as Avoidant (47%) and Secure (33%). Therefore, pre-birth maternal Preoccupied classification on AAI was unable to predict the infant's classification as assessed by the SSP, one year later. A similar comparison was conducted by Benoit and Parker (1994) with a sample of 82 mother-infant pairs. The findings indicated moderate concordance for four-way classification (κ = .46, 68% match) and three-way classification (κ = .55, 81% match). This assessment was repeated concurrently (with a two week interval) and again yielded moderate agreement for four- (κ = .56, 74% match) and three-way classifications (κ = .57, 82% match).

Increasingly studies are focusing on concurrent assessment of the relationship between maternal and child attachment representation beyond infancy. DeKlyen (1996) examined this association between mothers and preschool boys using the AAI and Cassidy and Marvin (1987) separation-reunion procedure, reporting a moderate agreement of kappa = .54 (p < .001, 70% agreement) for four-way categorization. George and Solomon (1996) carried this research forward by using a sample of 33 kindergartners. For children attachment representations were measured using the Main and Cassidy (1988) separation-reunion procedure for six year olds and for mothers attachment was measured using the AAI. Findings indicated substantial

agreement ($\kappa = .75$, $p < .001$, 81% concordance) between maternal and child attachment classifications.

In contrast, Goldwyn and colleagues (2000) used a sample of 31 mother child dyads, administering the AAI to parents and the MCAST to the children between the ages of five to seven years. The interviews with mothers were conducted at varying times within six months after the MCAST was administered to children due to practical reasons. The findings of this study demonstrated very low agreement that did not reach statistical significance when comparing the three- ($\kappa = .08$, *n.s.*; 61% match) and two-way ($\kappa = .18$, *n.s.*, 65% match) attachment classification of the mothers as assessed by the AAI and the attachment representations of children using the MCAST. Possibly this discrepancy could be accounted for by the six month time interval between administering the MCAST and the AAI, where intervening events could have affected maternal state of mind with respect to attachment, however, as attachment is expected to be quite stable (Bowlby, 1988/2005; Hamilton, 2000; Waters, Weinfield, & Hamilton, 2000) that would only raise other questions. In an older sample of 88 participants in middle childhood, Shmueli-Goetz, Target, Fonagy, and Datta (2008) used the AAI to assess maternal attachment classification and the Child CAI to measure the mental representations of attachment in children. The association although reported to be significant, was in fact quite low ($\kappa = .16$, $p < .002$) for four-way classifications. Similarly, Allen and colleagues (2003) concurrently assessed 126 pairs of mothers and adolescents using the AAI, but applying the Q-set coding system developed by Kobak. The findings indicated a significant but low correlation of .21 between attachment Security of mother and adolescent.

8.3. Stability of Attachment Classifications

Assessing continuity of attachment classification during middle childhood has received limited attention and has yielded mixed findings, however overall stability is between moderate to high for this period of the life span. Several studies have assessed continuity of attachment and test-retest reliability by administering the same attachment instrument twice over an interval of one to six months. Using a small clinical sample of participants in middle childhood, Wright and colleagues (1995) failed to find evidence of test-retest reliability of the SAT after a one month

period. Green, Stanley, Smith, and Goldwyn (2000) assessed continuity of attachment over a median interval of 5.5 months using the MCAST with a sample of children in early school age years. Findings indicated continuity of 76.5% for three-way classification and 69% for attachment Disorganization. Target and colleagues (2003) assessed stability of attachment in middle childhood administering the CAI twice over a three month interval and found substantial test-retest reliability and stability of attachment classification. For the Secure-Insecure split for mother kappa was .74, for three-way classification it was .77 and for four-way classification it was .78. For father, the results were somewhat lower with .68 for Secure-Insecure split, .64 for three-way and .67 for four-way classifications. Impressively, 100% of Disorganized children received the same classification three months later for both parents.

Studies assessing continuity of attachment over longer time intervals of one to four years have yielded similar results. The previously mentioned study (Target et al., 2003) using the CAI, also assessed stability after a one year interval. The results again indicated substantial stability for attachment representation of the relationship with the mother with a kappa of .73 for two-way, .79 for three-way, and .78 for four-way attachment classifications. For father, the results were substantial but lower with a kappa of .68, .71, and .66, respectively for two-, three-, and four-way attachment classification. The Disorganized group of children had substantial agreement for mother ($\kappa = .72$) and moderate for father ($\kappa = .52$). Shmueli-Goetz (2001) compared attachment classification of the MCAST to the CAI after a three year interval. Findings indicated substantial agreement for two-way classification ($\kappa = .63$, $p < .001$), fair agreement for three-way classification ($\kappa = .29$, $p < .03$), and moderate agreement for four-way classification ($\kappa = .45$, $p < .001$). Ammaniti and colleagues (2000) administered the Attachment Interview for Childhood and Adolescence (AICA) to a group of participants at 10 and 14 years of age, the results showing that stability of attachment from middle childhood to early adolescence was moderate with a kappa of .48 for both four- and two-way attachment classification, findings that were attributed to the major transitions that occur as a child progresses to adolescence.

8.4. Present Study

To assess the validity of the CAQ, the present study will explore concurrent and predictive validity of this instrument. The first study will focus on concurrent validity by examining the association between concurrent assessments of attachment using the CAQ and the SAT. The second study will look at the predictive validity of the CAQ by examining the relationship between mothers' state of mind concerning attachment as measured by the AAI and children's attachment representation as assessed by the CAQ. Lastly, the third study will explore stability of attachment classification after a three year interval, when children were in early and then middle childhood using the MCAST and CAQ, respectively. Throughout the analyses, validity results using the CAQ will be compared to validity results yielded by using the ordinary CAI coding system to assess if the two systems are similarly valid or if there are differences.

8.4.1. Methodological strategy.

In terms of analysis, to examine the CAQ concurrent and predictive validity, the available CAQ scores were compared with the scores of three other attachment measures: the Separation Anxiety Test (SAT), the Adult Attachment Interview (AAI), and the Manchester Child Attachment Story Task (MCAST). The procedure followed was the same for all the comparisons, with only minor modifications when appropriate (e.g. it is not possible to conduct a four-way comparison of the CAQ scores with the SAT because the coding system applied to SAT (Resnick, 1993) does not provide classification for Disorganized attachment). The three datasets that contained the CAQ scores and the scores for the other measures shared the same structure: they included the scores of six independent raters and the scores of AT ratings. However, not all coders rated all cases, so it was decided to conduct two separate analyses for each measure.

The two sets of analyses were conducted with the following aims: (a) assess validity using the scores of AT (considered the gold standard as this person has received optimal training), (b) assess validity for naïve coders, i.e., individuals that are not attachment researchers and thus have limited knowledge of attachment, (c) since previous studies showed that coders are reliable, the current study will assess if coders are also valid with the amount of training received, (d) examine if averaged

scores between two coders produced more valid codings, and (e) examine if the scores of a randomly selected single coder suffice to yield valid results.

The first analysis reports both the comparison of AT ratings with the other measure (e.g. SAT) and the comparison of an aggregate score from two random raters with that same measure, referred to as "average" rater. Hence, when there were more than two coders rating one case a random selection of coders was conducted (e.g. if Case 1 had information from four coders, the author randomly selected one coder and copied his/her score to the hypothetical "Rater 1", and then repeated the process for the hypothetical "Rater 2"). If, on the other hand, only one rater coded the case it was excluded from this analysis. Then, all the scores of "Rater 1" and "Rater 2" were averaged and compared to the ratings of the other attachment instrument.

The second analysis also presents AT's comparison with the attachment measure, but this time the comparison was made with the scores of a "single" rater. Accordingly, the single scores that had not been included in the previous analysis were now added to "Rater 1" and "Rater 2". After that, the scores of "Rater 1" and "Rater 2" were compared to for example the AAI scores, and to AT's results in the same comparison. In addition, a mean point-biserial correlation coefficient was calculated for the two single raters in order to explore how on average a single rater would perform (to average the point-biserial correlations they were first transformed to *z* scores with the Fisher's *r* to *z* transformation, and then transformed back to point-biserial correlations using the inversed Fisher transformation).

All the analyses were conducted with the scores of the CAQ scales. Hence, the tables in this chapter include MANOVAs for the exploration of differences in the mean CAQ scales scores in the different attachment groups of the other measure (e.g. AAI) and point-biserial coefficients for the correlation between the CAQ scales scores with the attachment classification of the other measure. The MANOVAs were only conducted with AT scores as these represent the gold standard, and when there were at least 10 children in each group. In order to be able to compare the attachment groups separately, the variables that included the attachment classification in the three attachment measures were transformed into dummy variables. For example, the AAI four-way classification was transformed into four new variables: Secure attachment (which coding was 1 when the case had a Secure attachment and 0 if had any of the other three attachment categories), Dismissing attachment (with a 1 for

Dismissing cases and a 0 for the rest of the attachments), Preoccupied attachment (with a 1 for the cases presenting Preoccupied attachment and a 0 for the rest), and Disorganized attachment (with a 1 for the cases that presented that attachment and a 0 for the rest of attachment classifications).

Another important aspect that needs to be mentioned is the procedure to conduct the two-way CAQ classification. Firstly, the overall Insecure CAQ scores were created by calculating the mean for all of the non-Secure items (i.e., average of the items corresponding the Dismissing, Preoccupied, and Disorganized scales). Then, scores on the Insecure and Secure scales were compared and based on the scale with the highest score, cases were assigned an Insecure or Secure attachment classification.

As the comparisons between the CAQ and the three attachment measures included multiple tests, familywise error rate was controlled with Bonferroni correction. Thus, for the MANOVAs the *p* value was set to .01 in the four-way classifications (.05 / 4), and to 0.2 in the three-way classifications (.05 / 3). For the point-biserial the *p* value was set to .001 because the number of tests ranged from 27 in the three-way to 48 in the four-way comparisons. Initially, results without applying Bonferroni correction will be presented and then the results will also be reported after applying relevant corrections to the significance values.

8.5. Study 1 – Concurrent Validity – CAQ and SAT

8.5.1. Methods.

8.5.1.1. Participants.

The current sample consisted of 66 children and was made up of three subsamples from previous chapters (10 children from Group A of Chapter 6, 9 children from Group B of Chapter 6, and 25 children from the sample mentioned in section 7.4.1.1 of Chapter 7). Full details of the subsamples can be found in the relevant chapters. In addition, two new subsets were included consisting of 6 and 16 children from the normal and clinical samples respectively, taken from the larger AFC dataset whose participants were recruited from three schools in London and from clinical referrals made to three London specialist mental health clinics. The information about the overall sample of combined participants is provided below.

As indicated in Table 8-1, the children's age in the sample ranged from 7.3 to 12.9 years (*M* = 10.4, *SD* = 1.50) and was composed of 31 boys and 35 girls, predominantly white (89%), with almost equal percentages of children from middle (48.5%) and working (51.5%) class families. Differences between the various subsamples were not examined, as the purpose of the current study was to assess the validity of the CAQ and not the differences between the subgroups. Therefore, while this study was seeking to utilize a mixed sample likely to show a variety of attachment strategies, it would not have had the power to detect between-group differences even if that had been of interest.

Table 8-1. Demographic Information of the Sample.

Demographic Variables	Sample (*N* = 66)
Age (Years)	
M (*SD*)	10.4 (1.50)
Range	7.3 - 12.9
Males	31 (47%)
Caucasian[a]	59 (89%)
SES[b]	
Middle Class	32 (48.5%)
Working Class	34 (51.5%)

8.5.1.1. Measures.

8.5.1.1.1. Child Attachment Interview (CAI).

Detailed information about the CAI is provided in section 1.3.1.1 of Chapter 1. Please refer to section D.1 of Appendix D for the CAI Protocol.

8.5.1.1.2. Child Attachment Q-sort (CAQ).

Information about the CAQ Training System III is provided in 6.1.2.2.1 of Chapter 6.

8.5.1.1.3. Separation Anxiety Test (SAT).

The Separation Anxiety Test (Klagsburn & Bowlby, 1976; Slough & Greenberg, 1990; Wright et al., 1995) is a semi-projective instrument developed to assess children's internal schemas of attachment relationships through narrative responses to pictures of separations between child and parent. The SAT is described in detail in section 1.3.3.1 of Chapter 1. The adaptation version for middle childhood

by Wright and colleagues (1995) was used in the current study consisting of nine photographs. Please see section D.5 of Appendix D for the SAT protocol.

8.5.1.2. Procedure.

8.5.1.2.1. Administration.

The CAI and SAT were administered to children as part of a large battery of instruments, in a private and quiet room with the interviewer and child sitting across from each other. The duration of administering both instruments was between one to two hours.

8.5.1.2.2. Coding.

SAT codings following Resnick's (1993) system were carried out by three doctoral students, Adrian Datta (AD), Yael Shmueli-Goetz (YSG), and Tania Pilley (TP) during the development of the CAI. However the coders were blind to the attachment classifications of the CAI. Adrian Datta completed formal training with Gary Resnick and achieved satisfactory reliability with a kappa of .70 and agreement of 86%. The other two coders were trained by AD and achieved satisfactory reliability evidenced by a kappa of .67 and 82% agreement on 15 cases before proceeding to coding narratives for the current sample (Shmueli-Goetz, 2001).The two new subsamples of CAI videos used in the current study were rated by Coder 5, a postgraduate psychology student.

8.5.2. Results.

8.5.2.1. Four-way classification.

Concordance for four-way classification of the CAQ and SAT was not assessed because the coding system developed by Resnick (1993) does not yield a categorization for Disorganized attachment.

8.5.2.2. Three-way classification.

Overall associations between the CAQ and SAT classifications were established with kappa. The concordance between AT's CAQ and the SAT classifications was reasonable and significant ($\kappa = .30$, $p = .006$), with 60% agreement. As shown in Table 8-2, agreement was strongest for Secure children (19 of 26 children or 76%), followed by Dismissing with 55% agreement (10 of 18 children), and then by Preoccupied with 14% agreement (1 of 7). Most discordance

was observed for children classified as Dismissing and Preoccupied on the SAT, but Secure on the CAQ (8 and 5 children, respectively).

Table 8-2. AT's Three-Way Concordance between Children's CAQ Classifications and SAT Classifications (N = 50).

CAQ	SAT			Total
	Secure	Dismissing	Preoccupied	
Secure	19	8	5	32
Dismissing	3	10	1	14
Preoccupied	3	0	1	4
Total	25	18	7	50

Three-way associations for the rest of the raters were also reasonable, but significance was reached only with the scores of single raters: for the average rater kappa was .30 (p = .08) with a 58% of agreement, for the first single rater (SR1) kappa was .34 (p = .009) with a 66% of agreement, and for the second single rater (SR2) kappa was .34 (p = .009) with a 68% of agreement. Tables detailing these associations can be found in section A.5 of Appendix A.

With the aim of exploring specific relationships between the CAQ scales and the three-way SAT attachment classification, point-biserial correlations were calculated between each CAQ scale and the Secure and Dismissing SAT attachment groups (Preoccupied SAT attachment classification was excluded from this analysis because only two children presented a Preoccupied attachment classification). In Table 8-3 it can be seen that most relationships were in the expected direction, except for the positive correlation between the SAT Secure group and the CAQ Preoccupied scale. In addition, none of the point-biserial correlations were significant after applying Bonferroni correction (p values were higher than .001). However, before Bonferroni correction the Secure CAQ scale was significantly and positively correlated with the SAT Secure group in AT ratings (r_{pb} = .47, p = .04), indicating that Secure children tended to have higher scores in the CAQ Secure scale.

Table 8-3. Descriptive Statistics, MANOVAs, and Point-Biserial Correlations of the Comparison between Three-Way SAT Attachment Classification (Excluding SAT Preoccupied Attachment Group) and the Three-Way CAQ Scales and Attachment Classification for AT an Average Rater.

	SAT Secure				
	Mean CAQ scores			Coefficients	
	AT Raw *M* (*SD*)		Average rater *M* (*SD*) (*n*=9)	AT r_{pb} (*n*=19)	Average rater r_{pb} (*n*=19)
CAQ	SAT Secure (*n*=9)	SAT non-Secure (*n*=10)			
Secure	5.00(0.45)	4.08(1.16)	5.04(0.59)	.47*	.45
Dismissing	3.81(0.78)	4.40(0.67)	3.99(0.56)	-.39	-.37
Preoccupied	4.27(0.66)	4.18(0.48)	4.23(0.62)	.08	.11
Wilk's Lamda	*n* too small to calculate				
	SAT Dismissing				
	Mean CAQ scores			Coefficients	
	AT Raw *M* (*SD*)		Average rater *M* (*SD*) (*n*=8)	AT r_{pb} (*n*=19)	Average rater r_{pb} (*n*=19)
CAQ	SAT Dismissing (*n*=8)	SAT non-Dismissing (*n*=11)			
Secure	4.15(1.23)	4.78(0.74)	4.26(1.18)	-.32	-.31
Dismissing	4.37(0.74)	3.94(0.77)	4.45(0.66)	.28	.30
Preoccupied	4.09(0.35)	4.32(0.67)	4.03(0.27)	-.21	-.26
Wilk's Lamda	*n* too small to calculate				

* $p < .05$

The second group of analyses which examined the relationship between AT ratings and the single raters' ratings in the CAQ and SAT can be found in Table 8-4. Regarding the MANOVAs, there were significant differences in the CAQ scales scores for the Secure and the Dismissing SAT attachment classifications (F (3,46) = 3.25, p = .030, Wilks' Λ = 0.83, partial η^2 = .18, and F (3,46) = 3.82, p = .016, Wilks' Λ = 0.80, partial η^2 = .20, respectively). Specifically, Secure children as classified by the SAT had a significantly higher mean score in the Secure CAQ scale (F (1,48) = 9.59, p = .003, partial η^2 = .17), and had a significantly lower mean score in the Dismissing CAQ scale (F (1,48) = 6.33, p = .015, partial η^2 = .12) compared to non-Secure children. In addition, children classified as Dismissing in the SAT had a significantly higher mean score in the Dismissing CAQ scale (F (1,48) = 5.82, p = .020, partial η^2 = .11) and a significantly lower mean score in the Secure CAQ scale (F (1,48) = 10.19, p = .002, partial η^2 = .18) compared to the non-Dismissing children. These results remained significant only for the Secure SAT classifications after applying Bonferroni correction.

Regarding point-biserial correlations, results showed that there was a positive correlation between the children classified as Secure in the SAT and the CAQ Secure scale (AT: r_{pb} = .41, p = .003; SR1: r_{pb} = .41, p = .013; SR2: r_{pb} = .48, p = .004), whilst there was a negative correlation between the Secure SAT and the CAQ Dismissing scale (AT: r_{pb} = -.34, p = .015; SR1: r_{pb} = -.34, p = .049, SR2: r_{pb} = -.34, p = .046). This indicated that Secure children tended to have higher scores in the Secure CAQ scale and lower scores in the Dismissing CAQ scale.

There was also evidence of a negative relationship between the Dismissing SAT classification and the CAQ Secure scale in AT, SR1, and SR2's ratings (AT: r_{pb} = -.42, p = .002; SR1: r_{pb} = -.37, p = .029; SR2: r_{pb} = -.38, p = .025), showing that lower scores in the Secure CAQ scale tended to co-occur with Dismissing children. However, after applying Bonferroni correction to the significance level all these correlations failed to be significant (i.e. had a p value higher than .001).

Finally, there were no significant results in the comparisons using the children classified as Preoccupied by the SAT, or in the correlations with the CAQ Preoccupied scales and categories.

Table 8-4. Descriptive Statistics, MANOVAs, and Point-Biserial Correlations of the Comparison between Three-Way SAT Attachment Classification and the Three-Way CAQ Scales and Attachment Classification for AT and Single Raters (SR1 and SR2).

	SAT Secure							
	Mean CAQ scores				Coefficients			
	AT Raw *M* (*SD*)		SR1	SR2	AT	SR1	SR2	SR1-SR2
CAQ	SAT Secure (*n*=25)	SAT non-Secure (*n*=25)	*M* (*SD*) (*n*=21)	*M* (*SD*) (*n*=21)	r_{pb} (*n*=50)	r_{pb} (*n*=35)	r_{pb} (*n*=35)	*M* r_{pb}
Secure	5.21 (0.57)**	4.45 (1.08)	5.34 (0.59)	5.3 (0.52)	.41**	.41*	.48**	.45
Dismissing	4.00 (0.65)*	4.46 (0.67)	4.07 (0.40)	4.06 (0.39)	-.34*	-.34*	-.34*	-.34
Preoccupied	4.04 (0.50)	4.08 (0.39)	3.99 (0.51)	4.01 (0.50)	-.04	-.06	-.15	-.11
Wilk's Lamda	0.83*							
	SAT Dismissing							
	Mean CAQ scores				Coefficients			
	AT Raw *M* (*SD*)		SR1	SR2	AT	SR1	SR2	SR1-SR2
CAQ	SAT Dismissing (*n*=18)	SAT non-Dismissing (*n*=32)	*M* (*SD*) (*n*=11)	*M* (*SD*) (*n*=11)	r_{pb} (*n*=50)	r_{pb} (*n*=35)	r_{pb} (*n*=35)	*M* r_{pb}
Secure	4.31 (1.12)**	5.12 (0.67)	4.57 (1.14)	4.44(1.16)	-.42	-.37*	-.38*	-.38
Dismissing	4.53 (0.75)*	4.06 (0.60)	4.46 (0.62)	4.45 (0.63)	.33*	.33	.33	.33
Preoccupied	4.04 (0.34)	4.07 (0.50)	3.97 (0.23)	4.09 (0.36)	-.04	-.06	.03	-.02
Wilk's Lamda	0.80*							

* $p < .05$. ** $p < .01$.

Continuation Table 8-4. Descriptive Statistics, MANOVAs, and Point-Biserial Correlations of the Comparison between Three-Way SAT Attachment Classification and the Three-Way CAQ Scales and Attachment Classification for AT and Single Raters (SR1 and SR2).

	SAT Preoccupied							
	Mean CAQ scores				Coefficients			
	AT Raw *M* (*SD*)							
CAQ	SAT Preoccupied (*n*=7)	SAT non-Preoccupied (*n*=43)	SR1 *M* (*SD*) (*n*=3)	SR2 *M* (*SD*) (*n*=3)	AT r_{pb} (*n*=50)	SR1 r_{pb} (*n*=35)	SR2 r_{pb} (*n*=35)	SR1-SR2 *M* r_{pb}
Secure	4.81(0.94)	4.83(0.95)	4.72(1.00)	4.32(1.28)	-.01	-.11	-.21	-.16
Dismissing	4.29(0.34)	4.22(0.74)	4.27(0.64)	4.27(0.64)	.04	.03	.04	.04
Preoccupied	4.19(0.50)	4.04(0.44)	4.33(0.78)	4.40(0.44)	.11	.22	.23	.23
Wilk's Lamda	*n* too small to calculate							

8.5.2.3. Two-way classification.

The concordance between AT's two-way CAQ classification and the SAT two-way classification was reasonable ($\kappa = .26$, $p = .024$), with a 64% of agreement. As shown in Table 8-5 there was strong agreement for CAQ and SAT Secure classification, with the same classification assigned to 24 of the 26 considered Secure on the SAT (92%). However, correspondence was much lower for CAQ and SAT Insecure classification, where only 8 of the 24 children (33%) classified as Insecure on the SAT received the same classification on the CAQ.

Table 8-5. AT's Two-Way Concordance between Children's CAQ Classifications and SAT Classifications ($N = 50$).

CAQ	SAT		Total
	Secure	Insecure	
Secure	24	16	40
Insecure	2	8	10
Total	26	24	50

The concordance calculated for the average rater and the two single raters yielded similar kappa values and percentages of agreement as AT (Average rater: $\kappa = .25$, $p = .25$, percentage of agreement = 63%; SR1: $\kappa = .24$, $p = .10$, percentage of agreement = 69%; SR2: $\kappa = .30$, $p = .03$, percentage of agreement = 71%). Tables detailing these associations can be found in section A.5 of Appendix A.

As shown in Table 8-6 point-biserial correlations were in the direction hypothesized (i.e. Secure CAQ scale had a positive relationship with the SAT Secure group, and the Insecure CAQ scale had a negative relationship with the SAT Secure group of children). However, the magnitudes of these coefficients were in the small effect range and were not significant.

Table 8-6. Descriptive Statistics, MANOVAs, and Point-Biserial Correlations of the Comparison between Two-Way SAT Attachment Classification and the Two-Way CAQ Scales and Attachment Classification for AT and Average Rater.

	SAT				
	Mean CAQ scores			Coefficients	
	AT Raw *M* (*SD*)		Average rater Secure *M* (*SD*) (*n*=10)	AT r_{pb} (*n*=19)	Average rater r_{pb} (*n*=19)
CAQ	SAT Secure (*n*=10)	SAT Insecure (*n*=9)			
Secure	4.75 (0.70)	4.23 (1.24)	4.79 (0.72)	.26	.22
Insecure	3.75 (0.23)	3.91 (0.41)	3.74 (0.24)	-.25	-.21
Wilk's Lamda	*n* too small to calculate				

Note. SAT Secure = 1; SAT Insecure = 0.

The analyses that examined the relationship of AT ratings in the CAQ and SAT, did not show a significant difference in the CAQ scales between SAT attachment groups.

Regarding the results of the point-biserial correlations of AT and the single raters' ratings, Table 8-7 shows that again they were in the hypothesized direction (i.e., Secure CAQ scale of AT, SR1, and SR2 had a positive relationship with the SAT Secure group, and the Insecure CAQ scale of AT, SR1, and SR2 had a negative relationship with the SAT Secure group of children). The point-biserial correlations were significant at a .05 *p* value for AT and SR2; however, they were no longer significant after Bonferroni correction.

Table 8-7. Descriptive Statistics, MANOVAs, and Point-Biserial Correlations of the Comparison between Two-Way SAT Attachment Classification and the Two-Way CAQ Scales and Attachment Classification for AT and Single Raters (SR1 and SR2).

	SAT							
	Mean CAQ scores				Coefficients			
	AT Raw *M* (*SD*)		SR1	SR2	AT	SR1	SR2	SR1-SR2
CAQ	SAT Secure (*n*=26)	SAT Insecure (*n*=24)	*M* (*SD*) (*n*=22)	*M* (*SD*) (*n*=22)	r_{pb} (*n*=50)	r_{pb} (*n*=35)	r_{pb} (*n*=35)	*M* r_{pb}
Secure	5.11 (0.69)	4.53 (1.08)	5.21 (0.70)	5.18 (0.66)	.31*	.25	.33	.29
Insecure	3.63 (0.23)	3.82 (0.36)	3.60 (0.24)	3.61 (0.22)	-.31*	-.24	-.33	-.29
Wilk's Lamda	0.89							

Note. SAT Secure = 1; SAT Insecure = 0.
* $p < .05$.

8.6. Study 2 – Predictive Validity – CAQ and AAI

8.6.1. Methods.

8.6.1.1. Participants.

The current sample was composed of 76 mother-child dyads. It was constituted by three subsamples (24 children from Group A and 19 children from Study B of Chapter 6, and 33 children from the sample mentioned above in section 7.4.1.1 of Chapter 7).

As indicated in Table 8-8, the children's age in the sample ranged from 7.1 to 12.5 years (M = 9.8, SD = 1.19) and was composed of 43 boys and 33 girls, predominantly white (74%), with 60% from working class and 40% from middle class families. Again as before, differences between the various subsamples were not examined, as the purpose of the current study was to assess the validity of the CAQ and not the differences between the subgroups.

Table 8-8. Demographic Information of the Sample.

Demographic Variables	Sample (N = 76)
Age (Years)	
M (*SD*)	9.8 (1.19)
Range	7.1 - 12.5
Males	43 (57%)
Caucasian[a]	55 (74%)
SES[b]	
Middle Class	29 (40%)
Working Class	44 (60%)

[a] Ethnicity data missing for 2 children. [b]SES data missing for 3 children.

8.6.1.2. Measures.

8.6.1.2.1. *Child Attachment Interview (CAI).*

Detailed information about the CAI is provided in section 1.3.1.1 of Chapter 1. Please refer to section D.1 of Appendix D for the CAI Protocol.

8.6.1.2.2. Child Attachment Q-sort (CAQ).

Information about the CAQ Training System III is provided in 6.1.2.2.1 of Chapter 6.

8.6.1.2.3. Adult Attachment Interview (AAI).

The Adult Attachment Interview (George et al., 1985) was described in detail section 1.2.4 of Chapter 1. Please refer to section D.6 of Appendix D for the AAI protocol.

8.6.1.3. Procedure.

8.6.1.3.1. Administration.

The AAI was administered to parents by an experienced interviewer in a private and quiet room, with information about the purpose of the study presented and consent forms signed. Administration of the CAI was described in section 4.4.1.3 of Chapter 4.

8.6.1.3.2. Coding.

Interviews from the AAI of the mother were coded separately from interviews from the CAI of the child, and coders were blind to the ratings and classifications of the CAI. AAI codings were completed by Mary Target (MT) and Yael Shmueli-Goetz (YSG), both trained and certified as reliable coders through formal AAI training. For the following analyses, the AAIs that were categorized as Cannot Classify (CC) were combined with those classified as Unresolved because the CAQ does not have a CC category. This is the usual approach followed by researchers (Van IJzendoorn & Bakermans-Kranenburg, 1996).

8.6.2. Results.

8.6.2.1. Four-way classification.

Overall associations between the CAQ and AAI classifications were established with kappa. The concordance between AT's CAQ and the AAI classifications was very low ($\kappa = .05$, $p = .406$), with a 24% of agreement. As indicated in Table 8-9, almost half of the mothers in this sample were classified as Unresolved/Cannot Classify using the AAI, whereas the children were mostly classified as Secure and Dismissing using the CAQ. Also, most of the children of mothers classified as Dismissing were categorized as Secure using the CAQ.

Table 8-9. AT's Four-Way Concordance between Children's CAQ Classifications and Mothers' AAI Classifications (*N* = 62).

	AAI				
CAQ	Secure	Dismissing	Preoccupied	U/CC	Total
Secure	8	8	1	13	30
Dismissing	3	1	3	12	19
Preoccupied	1	2	2	3	8
Disorganized	0	0	1	4	5
Total	12	11	7	32	62

Four-way associations for the rest of the raters were also very low: for the average rater kappa was .08 (p = .25) with a 28% of agreement, for SR1 the kappa was .11(p = .08) with a 28% of agreement, and for SR2 kappa was .09 (p = .15) with a 28% of agreement. Tables detailing these associations can be found in section A.5 of Appendix A.

Not surprisingly, as agreement between CAQ and AAI classifications was low, the subsequent analysis with MANOVAs and point-biserial correlations yielded no significant results (after Bonferroni correction). Please refer to section A.5 of Appendix A to see the tables that include those results for AT, the two single raters, and the average rater.

8.6.2.2. Three-way classification.

Concerning three-way classification, concordance between AT's CAQ and the AAI classifications was very low (κ = .11, p = .191), with a 42% of agreement. As indicated in Table 8-10, agreement was highest for maternal AAI and child CAQ Secure classifications (64%), however discordance was observed for the organized Insecure attachment classification, with 64% of Dismissing mothers having childen classifed as Secure and 55% of Preoccupied mothers having children classified as Dismissing.

Table 8-10. AT's Three-Way Concordance between Children's CAQ Classifications and Mothers' AAI Classifications (*N* = 62).

CAQ	AAI			Total
	Secure	Dismissing	Preoccupied	
Secure	16	11	3	30
Dismissing	7	4	11	22
Preoccupied	2	2	6	10
Total	25	17	20	62

Similarly, low three-way associations for the rest of the raters were observed: for the average rater kappa was .06 (p = .58) with 40% agreement, for the first single rater kappa was .16 (p = .09) with 44% agreement, and for the second single rater kappa was .13 (p = .16) with 42% agreement. Tables detailing these relations can be found in section A.5 of Appendix A

As in the four-way classification, results of the MANOVAs and point-biserial correlations did not provide further understanding of the relationship between CAQ and AAI. Tables with results for AT, the two single raters, and the average rater can be found in section A.5 of Appendix A

8.6.2.3. Two-way classification.

Assessment of two-way concordance between the AT's CAQ classifications and AAI classifications yielded a low kappa of .19 (p = .09) and 56% agreement. As indicated in Table 8-11, there was high concordance (80%) between Secure classification of mothers and children, however only 41% of Insecure mothers had children classified as Insecure using the CAQ.

Table 8-11. AT's Two-Way Concordance between Children's CAQ Classifications and Mothers' AAI Classifications (N = 62).

CAQ	AAI		Total
	Secure	Insecure	
Secure	20	22	42
Insecure	5	15	20
Total	25	37	62

Two-way concordance was also very low for the other raters, yielding a kappa of .08 (p = .57) and 28% agreement for the average coder, a kappa of .09 (p = .43) and 51% agreement for SR1, and a kappa of .07 (p = .53) and 51% agreement for SR2. Tables detailing these associations can be found in section A.5 of Appendix A

As in the four- and three-way classification, results of the MANOVAs and point-biserial correlations did not further elucidate the relationship between CAQ and AAI. Tables with results for AT, the two single raters, and the average rater can be found in section A.5 of Appendix A.

8.7. Study 3 – Stability of Attachment Classification – CAQ and MCAST

8.7.1. Methods.

8.7.1.1. Participants.

The current sample was comprised of two subsamples of 25 children reported in the two studies of Chapter 6 (19 participants from Group A and 6 from Group B). All of the children in the two subsamples were recruited at a state primary school in Manchester. Overall this sample was composed of 25 children between the ages of 8.1 to 11 years old (M = 9.71, SD = 0.87) with more girls (64%) than boys (36%). Most of the children were white (92%) from working class families (64%) (see Table 8-12).

Table 8-12. Demographic Information of the Sample.

Demographic Variables	Sample (N = 25)
Age (Years)	
M (*SD*)	9.71 (0.87)
Range	8.11 – 11.00
Males	9 (36%)
Ethnicity	
Caucasian	23 (92%)
SES	
Middle Class	9 (36%)
Working Class	16 (64%)

8.7.1.2. Measures.

8.7.1.2.1. Child Attachment Interview (CAI).

Detailed information about the CAI is provided in section 1.3.1.1 of Chapter 1. Please refer to section D.1 of Appendix D for the CAI Protocol.

8.7.1.2.2. Child Attachment Q-sort (CAQ).

Information about the CAQ Training System III is provided in 6.1.2.2.1 of Chapter 6.

8.7.1.2.3. Manchester Child Attachment Story Task (MCAST).

The Manchester Child Attachment Story Task (Green et al., 2000) is a semi-projective measure using doll play to assess the internal working models of attachment relationships for children in early school age years. This

MCAST is described in detail in section 1.3.3.3.1 of Chapter 1. Please see section D.7 of Appendix D for the MCAST protocol.

8.7.1.3. Procedure.

8.7.1.3.1. Administration.

Three years before the CAI was administered Dr. Charlie Stanley and Vicky Smith administered the MCAST to children at school (for details about CAI administration see section 4.4.1.3 of Chapter 4).

8.7.1.3.2. Coding.

Double coding of the MCAST narratives was completed by two coders from the Manchester team without contact with each other, with consensus reached for any challenging cases. Interrater reliability between the two coders was almost perfect for two-way categorization (Secure versus Dismissing, Preoccupied, or Cannot Classify), as evidenced by a kappa of .88 with 94% agreement; substantial for three-way categorization (Dismissing, Secure, or Preoccupied) yielding a kappa of .62 and 80% agreement; and moderate for Disorganization, with a kappa of .41 and 82% agreement (Shmueli-Goetz, 2001).

8.7.2. Results.

Although the analyses and results of the MCAST and CAQ comparisons follow the same structure overall as the previously presented results with the SAT and AAI, there was one different aspect that is important to be mentioned. Since there were no single ratings conducted by any of the raters, results of the point-biserial correlations for the average rater were the same as those for the average single rater. In other words, as the scores used for the average rater were the same than for the two single raters (n=25), results did not vary. Thus, only the results for the Average rater are reported and the mean correlation for the single raters will be omitted. MANOVAs were not conducted with the MCAST because of the small sample size.

8.7.2.1. Four-way classification.

Overall associations between the CAQ and earlier MCAST classifications were assessed using kappa. The concordance between AT's CAQ and the MCAST classifications was reasonable ($\kappa = .35$, $p = .009$), with a 72% of agreement. As shown in Table 8-13, 67% (4 out of 6) of the children coded earlier as Disorganized by the MCAST were coded on the CAQ as Secure.

Table 8-13. AT's Four-Way Concordance between Children's CAQ and MCAST Classifications (*N* =25).

	MCAST				
CAQ	Secure	Dismissing	Preoccupied	Disorganized	Total
Secure	15	0	0	4	19
Dismissing	2	1	0	0	3
Preoccupied	1	0	0	0	1
Disorganized	0	0	0	2	2
Total	18	1	0	6	25

Four-way associations for the rest of the raters were reasonable: for the average rater the kappa was .27 (p = .03) with a 68% of agreement, for the first single rater the kappa was .37 (p = .003) with a 76% of agreement, and for the second single rater the kappa was .27 (p = .03) with a 68% of agreement. Refer to section A.5 of Appendix A for tables detailing these agreements.

More detailed analyses were conducted to explore specific correlations between each MCAST attachment group and the CAQ. However, the Dismissing and Preoccupied categories were excluded from the analyses because, using the MCAST, there was only one case classified as Dismissing and no cases classified as Preoccupied. Thus, point-biserial correlation were computed between each CAI scale and the Secure and Disorganized MCAST attachment category. These analyses yielded several significant results (refer to

Table 8-14). Findings showed a significant positive correlation between Secure MCAST cases and the CAQ Secure scale across all raters (AT: r_{bp} = .53, p = .007; Average rater: r_{bp} = .55, p = .005; SR1: r_{bp} = .59, p = .002; and SR2: r_{bp} = .49, p = .013), indicating that higher values in the Secure CAQ scale tended to co-occur with children classified as Secure in the MCAST.

Results also showed a significant negative correlation between the Secure MCAST children and the CAQ Disorganized scale, again across all raters (r_{bp} = -.53 to -.62, p < .01). This indicated that the lowest values in the Disorganized CAQ tended to co-occur with children classified as Secure in the MCAST. However, after the Bonferroni correction was applied, none of the above mentioned correlations continued to be significant.

Results indicated a significant positive correlation between Disorganized MCAST cases and the CAQ Disorganized scale across all coders (AT: r_{bp} = .46, p =

.021, Average rater: r_{bp} = .52, p = .008; SR1: r_{bp} = .47, p = .018; and SR2: r_{bp} = .53, p = .006). These findings showed that higher values in the Disorganized CAQ scale tended to co-occur with children classified as Disorganized in the MCAST. However, after adjusting the significance level using the Bonferroni method, the relationships failed to reach statistical significance.

Lastly, the only correlations that had not been predicted were the positive association observed between Disorganized MCAST and the Preoccupied CAQ scales for all the raters. This positive correlation indicated that Disorganized MCAST children had higher scores in the Preoccupied scale compared to the non-Disorganized children.

Table 8-14. Descriptive Statistics, and Point-biserial Correlations of the Comparison between Secure and Disorganized Four-Way MCAST Classification and the Four-Way CAQ Scales and Attachment Classification for AT, Average Rater, and Single Raters (SR1 and SR2).

MCAST - Secure									
	Mean CAQ scores					Coefficients			
	AT Raw *M* (*SD*)		SR1	SR2	Average rater	AT	SR1	SR2	Average rater
CAQ	MCAST Secure (*n*=18)	MCAST non-Secure (*n*=7)	*M* (*SD*) (*n*=18)	*M* (*SD*) (*n*=18)	*M* (*SD*) (*n*=18)	r_{pb} (*n*=25)	r_{pb} (*n*=25)	r_{pb} (*n*=25)	r_{pb} (*n*=25)
Secure	5.20 (0.58)	4.17 (1.17)	5.30 (0.43)	5.14 (0.64)	5.22 (0.52)	.53**	.59**	.49*	.55**
Dismissing	3.93 (0.64)	4.01 (0.84)	4.06 (0.51)	4.11 (0.58)	4.08 (0.52)	-.06	-.09	.07	-.00
Preoccupied	3.91 (0.44)	4.25 (0.40)	3.89 (0.28)	3.95 (0.44)	3.92 (0.33)	-.34	-.30	-.23	-.28
Disorganized	2.97 (0.33)	3.57 (0.70)	2.75 (0.35)	2.81 (0.41)	2.78 (0.35)	-.53**	-.60**	-.59**	-.62**
MCAST -Disorganized									
	Mean CAQ scores								
	AT Raw *M* (*SD*)		SR1	SR2	Average rater	AT	SR1	SR2	Average rater
CAQ	MCAST U/CC (*n*=6)	MCAST non-U/CC (*n*=19)	*M* (*SD*) (*n*=6)	*M* (*SD*) (*n*=6)	*M* (*SD*) (*n*=6)	r_{pb} (*n*=25)	r_{pb} (*n*=25)	r_{pb} (*n*=25)	r_{pb} (*n*=25)
Secure	4.41 (1.08)	5.06 (0.80)	4.43 (1.12)	4.43 (0.97)	4.44 (1.04)	-.32	-.37	-.30	-.34
Dismissing	3.77 (0.58)	4.01 (0.72)	3.98 (0.56)	3.78 (0.45)	3.88 (0.49)	-.15	-.11	-.28	-.21
Preoccupied	4.28 (0.43)	3.92 (0.43)	4.12 (0.41)	4.20 (0.40)	4.16 (0.39)	.34	.30	.26	.29
Disorganized	3.55 (0.76)	3.00 (0.35)	3.49 (0.84)	3.59 (0.75)	3.55 (0.78)	.46*	.47*	.53**	.52**

* p < .05. ** p < .01.

8.7.2.2. Three-way classification.

Concordance between CAQ and MCAST three-way classifications for AT was reasonable, with a kappa of .24 (p = .10) and 72% agreement. As shown in Table 8-15, two out of three (66%) children coded earlier as Preoccupied in the MCAST, were coded as Secure on the CAQ.

Table 8-15. AT's Three-Way Concordance between Children's CAQ and MCAST Classifications (N = 25).

CAQ	MCAST			Total
	Secure	Dismissing	Preoccupied	
Secure	17	0	2	19
Dismissing	2	1	1	4
Preoccupied	1	1	0	2
Total	20	2	3	25

Three-way agreement for the rest of the raters was reasonable: the average rater yielded a kappa of .25 (p = .09), with an agreement of 72%, SR1 yielded a kappa of .36 (p = .01), with an agreement of 80%, and SR2 yielded a kappa of .25 (p = .09), with an agreement of 72%. Refer to section A.5 of Appendix A for tables detailing these agreements.

With the purpose of exploring the specific relationships between CAQ scales and the three MCAST attachment categories, point-biserial correlations were computed between each CAQ scale and the Secure MCAST attachment category. These analyses yielded several significant results (refer to Table 8-16). The Dismissing and Preoccupied MCAST attachment groups were omitted from the analyses because the small sample size made results not generalizable (two children were classified as Dismissing and three as Preoccupied).

Findings indicated highly significant positive correlations between Secure MCAST cases and the CAQ Secure scale across all raters (AT: r_{bp} = .69, p < .001; Average rater: r_{bp} = .70, p < .001; SR1: r_{bp} = .74, p < .001; and SR2: r_{bp} = .64, p = .001), that remained significant for all coders, except for SR2, after employing the Bonferroni adjustment. These correlations indicated higher values in the Secure CAQ scale tended to co-occur with children classified as Secure in the MCAST.

Table 8-16. Descriptive Statistics, and Point-Biserial Correlations of the Comparison between Secure Three-Way MCAST Attachment Classification and the Three-Way CAQ Scales and Attachment Classification for AT, Average Rater, and Single Raters (SR1 and SR2).

	MCAST - Secure								
	Mean CAQ scores					Coefficients			
	AT Raw								
CAQ	MCAST Secure *M* (*SD*) (*n*=20)	MCAST non-Secure *M* (*SD*) (*n*=5)	SR1 *M* (*SD*) (*n*=20)	SR2 *M* (*SD*) (*n*=20)	Average rater *M* (*SD*) (*n*=20)	AT r_{pb} (*n*=25)	SR1 r_{pb} (*n*=25)	SR2 r_{pb} (*n*=25)	Average rater r_{pb} (*n*=25)
Secure	5.21 (0.56)	3.70 (1.02)	5.31 (0.41)	5.15 (0.62)	5.23 (0.50)	.69***	.74***	.64**	.70***
Dismissing	3.87 (0.64)	4.29 (0.83)	4.00 (0.53)	4.04 (0.60)	4.02 (0.54)	-.25	-.33	-.14	-.24
Preoccupied	4.00 (0.46)	4.19 (0.38)	3.95 (0.32)	3.98 (0.44)	3.96 (0.36)	-.21	-.05	-.16	-.12

* $p < .05$. ** $p < .01$. *** $p < .001$.

8.7.2.3. Two-way classification.

For the Secure versus Insecure split, concordance between CAQ and MCAST classifications for AT was high and statistically significant, as evidenced by a kappa of .71 ($p < .001$) and an agreement of 92%. As shown in Table 8-17, most children in this sample were classified as Secure and there was 100% agreement between the CAQ and MCAST. For the small frequency of Insecure cases, agreement was 60%.

Table 8-17. AT's Two-Way Concordance between Children's CAQ and MCAST Classifications (N = 25).

CAQ	MCAST		Total
	Secure	Insecure	
Secure	20	2	22
Insecure	0	3	3
Total	20	5	25

For the other raters, the relationship for two-way classifications was also highly significant and ranged from moderate to substantial: for the average rater kappa was .71 ($p < .001$) with 92 percentage of agreement, for SR1 kappa was .71 ($p < .001$), with 92 percentage of agreement, and for SR2 was kappa = .60 ($p = .003$) with 88 percentage of agreement. Refer to section A.5 of Appendix A for tables displaying these agreements.

With the goal of exploring the specific relationships between the Secure and Insecure MCAST attachment categories and the analogous CAQ scales, point-biserial correlations were computed. All these analyses yielded significant results (refer to Table 8-18). Findings indicated highly significant positive relationships between Secure MCAST cases and the CAQ Secure scale and category across all raters (AT: $r_{bp} = .69$, $p < .001$; Average rater: $r_{bp} = .70$, $p < .001$; SR1: $r_{bp} = .74$, $p < .001$; and SR2: $r_{bp} = .64$, $p = .001$). These results indicated that children classified as Secure on the MCAST were more likely to receive a high score on the CAQ Secure scale. These relationships continued to be significant after employing the Bonferroni adjustment, except for SR2. As these were the results of a two-way attachment classification, they already include the Insecure MCAST group; hence, those results will not be repeated here but are presented in Table 8-18.

Table 8-18. Descriptive Statistics, and Point-Biserial Correlations of the Comparison between Two-Way MCAST Attachment Classification and the Two-Way CAQ Scales and Attachment Classification for AT, Average Rater, and Single Raters (SR1 and SR2).

	MCAST - Secure								
	Mean CAQ scores					Coefficients			
	AT Raw								
CAQ	MCAST Secure *M* (*SD*) (*n*=20)	MCAST Insecure *M* (*SD*) (*n*=5)	SR1 *M* (*SD*) (*n*=20)	SR2 *M* (*SD*) (*n*=20)	Average rater *M* (*SD*) (*n*=20)	AT r_{pb} (*n*=25)	SR1 r_{pb} (*n*=25)	SR2 r_{pb} (*n*=25)	Average rater r_{pb} (*n*=25)
Secure	5.21 (0.56)	3.70 (1.02)	5.31 (0.41)	5.15 (0.62)	5.23 (0.50)	.69***	.74***	.64**	.70***
Insecure	3.60 (0.19)	4.10 (0.34)	3.57 (0.14)	3.62 (0.21)	3.60 (0.17)	-.69***	-.74***	-.63**	-.70***

Note: MCAST Secure = 1 and Insecure = 0.
** $p < .01$. *** $p < .001$.

8.8. Discussion

Following previous studies which provided sufficient evidence for the reliability of the CAQ, it was necessary to examine the validity of this new coding and classification system. Specifically, the present study aimed to assess concurrent validity by comparing simultaneous assessments of children's attachment by using both the CAQ and SAT. In addition, predictive validity was explored by examining the association between maternal state of mind with respect to attachment using the AAI and attachment of the children using the CAQ. Finally the stability of attachment classification from early to middle childhood was examined using the MCAST and CAQ. The MCAST was employed when children were between five to seven years old and the CAQ was applied to interviews collected three years later, when children were between eight to eleven years old.

Additional goals of the present study were: (a) to compare validity of ranking by the expert coder (AT) and naïve coders to see if individuals with limited knowledge in attachment and the current level of training could achieve valid results, comparable to those of AT; and (b) to examine if averaged scores were necessary to produce valid codings or if the scores of a single coder sufficed. The aim of the latter analyses was to assess whether the CAQ could be used with validity outside of a research center, where professionals who want to know about children's attachment, but do not have training and/or experience with attachment research would use the CAQ to both learn and measure attachment.

8.8.1. Concurrent validity.

Assessment of concurrent validity was undertaken using the SAT with the coding system developed by Resnick (1993), an instrument that analyzes children's narrative responses to pictures in order to tap and assess a single overarching internal representation of attachment during early to middle childhood. Since a "good criterion or benchmark test" (Kline, 2000) does not exist for middle childhood, this instrument was selected as most appropriate for this purpose, although it is not considered to be of gold standard status among attachment instruments, as further studies are needed to establish its reliability and validity.

Concordance between the concurrent three-way attachment classifications (Secure, Dismissing, and Preoccupied) of the CAQ and SAT indicated associations in

the reasonable range for all coders. These findings are almost identical to those reported using the current coding system of the CAI, with a kappa of .36 for the three-way classification (Shmueli-Goetz et al., 2008). In addition, concordance for the Secure versus Insecure attachment classifications was reasonable for all coders. Similarly, Goldwyn and colleagues reported reasonable to moderate association between the MCAST and SAT (2000) for two-way classification.

In both three-way and two-way distributions comparing CAQ and SAT classifications, discordance was predominantly due to children classified as Insecure on the SAT, but Secure on the CAQ. A possible interpretation of this discrepancy could be that children may indeed have had Secure attachment classifications, but that after answering CAI questions they may have been tired, which in turn could have had a negative influence on the SAT responses. To address this, research in the future should replicate this study and make the following changes: (a) varying the order that the two measures are administered to control for any order effects and/or (b) only administering one measure per session.

Despite the reasonable magnitude of concordance between the attachment classifications of the CAQ and SAT, with kappa ranging between .30 to .34 for three-way classification and .24 to .30 for two-way classification that could be interpreted as the CAQ lacking concurrent validity, it is important to highlight that the SAT is not a good criterion test for attachment, as it has serious recognized shortcomings among attachment instruments for middle childhood. As Kline (2000) argues the absence of good criterion tests is a generalized problem in the field of psychology and one should be satisfied with a moderate correlation. Thus, it can be cautiously argued that the CAQ may present an adequate level of concurrent validity, given that the current findings are only slightly below the concordance level indicated by Kline.

In addition, the reasonable magnitude of the relationship between the CAQ and SAT, could be attributed to the fact that the original instrument, the CAI (i.e., the interview protocol administered to the child, which the CAQ then uses to code and classify attachment) and the SAT are measuring different aspects of the attachment construct, because the SAT specifically focuses on separations with parents, whereas CAI is considerably more focused on interactions and feelings when together with parents. This could have affected further agreement on the results. As mentioned previously, it is necessary that this analysis is repeated with a new sample since the

SAT was administered after the CAI without accounting for order effects that could have potentially influenced the current findings.

Another reason for the discordance observed between the CAQ and SAT could be due to reliability of SAT classifications, as findings of Kerns and colleagues (2000) have cast doubt on the reliability of Resnick's coding system, where interjudge agreement for three-way classification was only reasonable, with a kappa of .37. However, the SAT was used for this study because it was the only available data in the AFC dataset for assessing concurrent validity.

Also, although the author was privileged to use the dataset of the large AFC study, it is important to note that certain limitations of the dataset were 'inherited.' Particularly, it is possible that the previously coded SAT narratives were inconsistently rated across coders because two of the three coders did not receive formal training, their agreement was below the minimum acceptable level of .7 (Kline, 2000) and agreement was assessed only for 15 cases (without further assessment of interjudge agreement for the overall sample). It is therefore possible that poor interrater reliability could have led to poor agreement between the classification of the CAQ and SAT. Therefore, replication of the current study with a new sample of children is necessary.

The analyses conducted looking at specific relationships indicated that point-biserial correlations with the SAT classification varied between CAQ scales but were relatively stable across all the raters (AT, the two single raters, and the average rater). Ignoring the sign, the highest correlations in almost all the analyses were with the Secure CAQ scale (the only exception was in the Preoccupied SAT group which presented the highest correlation with the Preoccupied CAQ scale). In line with this finding, the two MANOVAs in the three-way attachment analyses that presented significant results before Bonferroni correction evidenced a significant difference in the Secure CAQ mean between Secure and non-Secure SAT groups, and the Dismissing and non-Dismissing SAT group. These results seem to indicate that out of the four CAQ scales, the Secure scale is the one that presents highest levels of validity. This parallels observations by the author when training individuals and analyzing their codings, where coders consistently found it easier to recognize Secure, i.e., 'normal' behavior in comparison to varieties of uncommon behavior, particularly Dismissing and Preoccupied attachment behaviors.

In addition, overall associations between the CAQ and SAT were in the expected directions 90% of the time (17 out of 19) indicating that the two instruments are measuring the same construct and offering support for the validity of the CAQ. Examining the consistency of findings across coders, the sign of correlations between AT and the rest of the coders was the same 98% of the times (40 out of 41 comparisons) and the correlations magnitudes were within a .10 range 88% of the times (36 out of 41 comparisons). The same comparison between the average rater and single raters indicated that the sign of correlations was the same 97% of the time (32 out of 33) and the correlation of magnitudes were within .10 range 100% of the time (33 out of 33). Also, as mentioned previously, results were consistent for the four, three and two-way classifications across all coders. Therefore, these preliminary findings offer support that an individual without attachment knowledge and having completed the CAQ training can achieve similar results compared to an expert coder. Furthermore, with caution it can be concluded that the codings of a single rater achieve valid results and it is not necessary to have more than one rater code interviews, thereby reducing the costs involved of having each case coded by two raters, a rather costly process, particularly for studies with large samples.

Finally, it is important to mention that as Kline (2000) explained, when a benchmark test is lacking, concurrent validity cannot adequately be assessed. Therefore the results of the current study should be treated with caution and be regarded as more indicative of construct validity, until an instrument of gold standard for this age group is developed and well-accepted.

8.8.2. Predictive validity.

Predictive validity is an important facet for assessing the efficacy of a newly developed instrument (Kline, 2000), and in the current study this was assessed by examining the ability of the CAQ to predict maternal attachment status using the AAI, an interview based instrument assessing state of mind with respect to attachment, considered a robust measure for adulthood.

Assessment of the relationship between the attachment classification of mothers as measured by the AAI and attachment category of children as measured by the CAQ, indicated weak associations for four-, three-, and two-way attachment classifications for all coders that in all instances failed to reach statistical significance. The level of agreement observed for four- and three-way agreement was close to what

would be expected by chance (i.e., random; Bartko & Carpenter, 1976). Overall these findings are consistent with studies that aimed to predict AAI attachment classification using the MCAST (Goldwyn et al., 2000) and the current coding system of CAI (Shmueli-Goetz et al., 2008) to assess attachment in early and middle childhood. In addition, findings of the current study were similar to the low correlation observed between maternal attachment and adolescent security of attachment (Allen et al., 2003). However, the current findings did not correspond to studies assessing the concordance between the attachment classifications of mothers and children from infancy to six years of age (DeKlyen, 1996; Fonagy, Steele, & Steele, 1991; George & Solomon, 1996; Main et al., 1985; Van IJzendoorn, 1995), where an association with a magnitude ranging between moderate to substantial was reported.

Closer observation of the AAI-CAQ four-way distribution of AT indicated that Unresolved/Cannot Classify (U/CC) mothers constituted 52% of the overall sample, an unexpectedly high percentage even though the sample was drawn from both a high risk/clinical and non-clinical sample. When looking at groups separately, the percentage of U/CC mothers for the high risk/clinical sample was 58% and for the non-clinical sample it was 49%. For both subsamples, these percentage were much higher than previously reported by Bakermans-Kranenburg and Van IJzendoorn (2009), where the prevalence for high risk and clinical samples was 32% and 43%, respectively and for non-clinical samples the prevalence was only 18%. This could indicate possible selection bias, since only about 40% of mothers from the large AFC sample from which this data was drawn were administered the AAI (Shmueli-Goetz et al., 2008), however it is difficult to know this with certainty as the author was not involved in the data collection of this sample. Furthermore, this overrepresentation of U/CC in both subsamples could be due to oversensitivity of the AAI coders to assign this classification. Therefore, the low level of agreement observed between the CAQ and AAI could be attributed to one of these reasons.

The highest discordance for four-way classification of mother and child was mainly observed for U/CC mothers with Secure and Dismissing children. This finding is interesting because 41% of the U/CC mothers received a secondary attachment classification of Secure and 62% had children classified as Secure using the CAQ. These results could indicate that the secondary attachment classification assigned by the AAI (i.e., the organized attachment status operating when the mother does not

experience temporary lapses in discourse and state of mind shifts in relation to questions about traumatic events during the interview) is the global attachment status operating when interacting with the child and may lead to the intergenerational transmission of Secure rather than Disorganized attachment to the child, thus explaining the propensity of U/CC mothers to have children classified as Secure on the CAQ. However this notion will need to be tested in future research in middle childhood, as it is not in line with research during infancy indicating that U mothers behaved with their babies in odd and disturbing ways (Lyons-Ruth, Yellin, Melnick, & Atwood, 2005).

The tendency of U/CC mothers to have Secure and Dismissing children could be the result of combining mothers with Unresolved and Cannot Classify when conducting analyses. Although this is a common practice among researchers and was also the approach taken in the current study, Cannot Classify mothers usually display contradicting organized attachment strategies which could inevitably lead to varied transmission of attachment status to their children. If a predominant state of mind concerning attachment does not exist, then it seems impossible to expect transmission of a particular type of attachment to the child. Hence, although the findings of the current study may be in contrast to other researchers reporting an association between the attachment status of mother and child, they provide interesting questions that future studies could aim to address. In particular, studies with CC adults are limited due to the rarity of this classification, however, further exploration of this perplexing category and the consequences to the mother-child relationship seem to be warranted.

Given these findings, further studies among high risk, clinical samples of mothers and children using the AAI and CAQ where a high prevalence of Unresolved and Cannot Classify attachment for parents and Disorganized attachment for children could permit further assessment of the ability of the CAQ to code Disorganized attachment, and in the process provide a useful tool for shedding further light in this field. As the current study included a small sample that could have been compromised by selection bias or coding errors, the findings are only indicative and further studies would also help elucidate limitations in the coding and classification system of the CAQ to measure Disorganized attachment.

Closer observation of three-way distributions between the CAQ and AAI indicated that as expected Secure mothers frequently had Secure children; however Dismissing mothers mostly had Secure children and Preoccupied mothers mostly had

Dismissing children. The fact that Dismissing mothers were more likely to have children classified as Secure by the CAQ could perhaps point to a shift toward more Secure attachment for this particular group of children that could be accounted for by intervening life events that had a positive effect for children. For example, children may have been able to draw on a more Secure and close relationship with the other parent, and in middle childhood there is also a range of alternative, important relationships with other individuals such as siblings, other extended family members (e.g., grandparents), peers, and teachers. Having a relatively detached and/or down-regulating attachment with the mother may not necessarily stand in the way of other closer attachments once these become available and the child spends most of the time away from mother. Concerning the association between Preoccupied parents and Dismissing children, Fonagy and colleagues (1991) have reported similar findings and the results of pooled studies have indicated that AAI Preoccupied classification is the least predictive of children's attachment (Van IJzendoorn, 1995). In the present study, the discordance between Insecure mothers and children as displayed in three-way and two-way distributions could be accounted for by the contribution of the father to the attachment of the child that was not assessed in the current study.

There are several possible reasons for the weak associations observed in this study. First, as mentioned previously only maternal AAIs were collected. Therefore, this study should be replicated including assessment of father's state of mind with respect to attachment. Second, research does not seem to exist, demonstrating or testing to what extent state of mind of a child or adult in relation to family attachment may be influenced by life events or immediate contexts. It would be interesting for future research to examine the influence that recent occurrences or circumstances may have on attachment narratives.

8.8.3. Stability of attachment classification.

The MCAST is a relatively new doll play instrument used to assess internal schemas of attachment during early middle childhood. At the moment research is still underway to establish the reliability and validity of this instrument, however it was included in this study because it is an interesting and innovative measure developed by experienced child psychiatrists Jonathan Green and Charlie Stanley, and Ruth Goldwyn, one the originators of the AAI. It was considered a strong test of attachment continuity for the CAQ because it utilized a completely different format (i.e., play

versus interview approach), yet it has the same underlying theoretical basis and interest in both verbal and non-verbal behavioral signs of attachment, examined alongside internal representations of attachment.

The findings of the current study were consistent across all coders and indicated that agreement between the CAQ and MCAST classifications was reasonable for four- and three-way classifications, with substantial improvement for two-way classification, where concordance was high and reached statistical significance. These findings offer support for continuity of attachment classification in childhood, particularly for the Secure versus Insecure split and are similar to the results yielded by the original CAI classification system (Shmueli-Goetz, 2001). One difference was that although the CAQ and CAI codings both had 72% agreement with the MCAST for four-way classification, kappa was .35 for the CAQ and .45 for the CAI. The difference for three-way classification was not substantial. The greater difference was that the CAQ had 92% agreement for two-way classification, whereas the CAI had 84% agreement, with a kappa of .71 and .63, respectively, indicating that for the Secure-Insecure split the CAQ coding system displayed stronger evidence of attachment continuity than the ordinary CAI coding system. However, these differences are not considered substantial as the sample size used for both the CAQ and CAI was small and kappa is sensitive to this fact, where even a few disagreements can make a large difference on the kappa coefficient. Overall, these findings indicate that the CAQ coding system does as well as the original CAI coding system when compared to MCAST.

Closer observation of the differences between attachment classification on the MCAST and CAQ after a three-year interval indicated that children coded earlier as Disorganized by the MCAST were later coded as Secure on the CAQ. An explanation of this finding could be that earlier indications of Disorganization may have actually been developmental problems such as transient affect regulation or cognitive confusions which were resolved a few years later and perhaps were not attachment anomalies. This discrepancy could point to potential limitations to assessing Disorganized attachment in the CAQ, but especially for measures intended for preschool or infant school children such as the MCAST, or both instruments. As this is a challenging area for most instruments developed for middle childhood, future studies should continue to focus on this category providing clarity into delineation of such discrepancies and/or discontinuities and further informing the coding and

classification systems of existing instruments. Also, a comparison of MCAST and CAI videos of the Disorganized children would probably offer useful insight into this discrepancy; for example to observe if there were any substantial differences in verbal and non-verbal behavior between the two testings, taking into account the different age group and task demands.

Also, for three-way classification, children coded as Preoccupied on the MCAST were mostly coded as Secure in the CAQ. However, due to the very low frequency of this category (3 children), this finding cannot be considered indicative of anything unless further studies with more Preoccupied children are conducted. However, as mentioned previously the few disagreements observed substantially affected kappa in a small sample, therefore the lower concordance for four- and three-way classification is very likely attributable to this.

Looking at the two-way classification, although the concordance was high and offers support for continuity, this finding should be interpreted with caution, as there was a high prevalence of Secure children who consented to take part in the follow up study from which this sample was drawn (Green et al., 2000). Perhaps this points to a biased sample, where the participants choosing to take part in the follow up study from which the current sample was drawn were more likely to have Secure relationships with the caregivers making them more comfortable with further assessment. Therefore, it is necessary that in the future, this study is replicated with a larger and more representative sample.

The second part of the analyses that examined specific relationships between MCAST attachment groups and CAQ scales indicated that for four-way classification, the common findings across all raters were that: (a) higher scores on the CAQ Secure scale and lower scores on the Disorganized scale co-occurred for children classified as Secure on the MCAST, and (b) higher scores on the CAQ Disorganized and Preoccupied scale co-occurred for children classified as Disorganized on the MCAST. However, after adjusting for multiple comparisons these findings were no longer significant.

Overall, expected directions and findings offer support for continuity of attachment. The only correlation that had not been predicted was for the Preoccupied scale, where Disorganized MCAST children received high Preoccupied scores on the CAQ but this was not surprising because out of the four CAQ scale values, 67% of the children in this group had their second highest score on the Preoccupied Scale.

Therefore, this finding is not indicative of a limitation in the CAQ, but only reflects the higher level of Preoccupation prevalent in this particular group of previously Disorganized children.

Observing the findings of specific associations for three-way classification, the MCAST Secure group indicated the same relationship as mentioned previously with higher values on the Secure CAQ scale. This relationship maintained significance after correcting for multiple comparisons for all coders, except for SR2 who was just above the designated significance level. The associations for the other three CAQ scales were in the expected direction. For two-way classification, highly significant results across all coders were observed both for the CAQ Secure and Insecure scales. These findings offer support for continuity of attachment after a three year interval as assessed by the MCAST and CAQ at the scale level.

Overall associations between the CAQ and MCAST were in the expected directions 92% of the time (11 out of 12). Looking at the consistency of findings across coders, the sign of correlations between AT and the rest of the coders was the same 97% of the times (38 out of 39 comparisons) and the correlations magnitudes were within a .10 range 92% of the times (36 out of 39 comparisons). Also, as mentioned previously, results were consistent for the four-, three-, and two-way classifications across all coders. Therefore, these preliminary findings offer support that an individual without attachment knowledge and having completed the CAQ training can achieve similar results compared to an expert coder. Furthermore, with caution it can be concluded that the codings of a single rater achieve valid results and it is not necessary to have more than one rater code interviews.

The limitations concerning sample representativeness, mentioned in section 7.7.3 of the previous chapter also apply to the current study and will need to be addressed by future studies mentioned in the next chapter.

8.9. Conclusions

Concluding, the findings of the current chapter provide some evidence for the concurrent validity of the CAQ, by observing an adequate level of agreement with SAT classifications and high agreement for overall associations between SAT classifications and CAQ scales. Concerning predictive validity, the relationship between the CAQ attachment classification of children and AAI attachment status of

mothers was weak. However, this could be attributed to reasons ranging between problematic codings to sample bias that future studies should aim to address, as will be presented in the next chapter. Looking at stability of attachment across a three year interval indicated high agreement for attachment security as coded by the MCAST in early childhood and the CAQ in middle childhood.

Overall, the current findings were promising even though a weak association was observed with the AAI, since the CAQ was able to relate to other instruments of attachment in the expected direction, thus indicating that the same domain is being measured. Further, comparing the findings of the CAQ and ordinary CAI coding and classification system indicated that the CAQ performs as well as the CAI. Lastly, concerning raters, the findings give cautious support to the idea that non-attachment experts could be trained to give comparable validity to someone who has a lot more experience and has been involved in developing the CAQ Training System. Therefore, this gives preliminary support for validity of naïve coders trained on the CAQ but not attachment more generally.

The final chapter of this thesis will provide a general synopsis and discussion of findings related to the development and validation of the CAQ, as presented in Chapters four to eight. Lastly, limitations and future directions will be discussed.

Chapter 9: Concluding Discussion

The aim of the present thesis was to develop and validate the Child Attachment Q-sort (CAQ), as a new coding system for the Child Attachment Interview (CAI) utilizing Q-technique. The purpose of developing a new coding system was to simplify the already existing coding process, reduce the need for extensive training and to address limitations of the original CAI coding and classification system. The CAQ was developed to complement rather than replace the existing system, providing researchers and potentially clinicians with two coding options. Depending on the research questions that a particular study is aiming to address, investigators may choose to use the ordinary CAI coding system yielding detailed dimensional scores together with a best-fitting classification, or the CAQ yielding an overall array of attachment statements and scale scores related to all four attachment categories. To the knowledge of the author, a similar coding system for this age group does not exist. In particular, the innovative approach offered by an interview based instrument such as the CAI coupled with coding using Q-sort has not been attempted by other researchers for the assessment of attachment in middle childhood.

9.1. CAQ Coding and Classification System

Q-technique was adopted to develop the CAQ because it provided a more objective assessment of attachment that could be assessed at the observational level, potentially affording the benefit of being coded by naïve raters with limited knowledge in attachment and requiring limited training. Developing items to correspond to each classification provided the opportunity to create a more focused instrument, starting afresh from knowledge of the range of normal and abnormal behavior in this period of childhood, as opposed to starting from the existing coding criteria for preschool and adult coding systems. Breaking down each category allowed the opportunity to describe a fuller range of manifestations for each type of attachment classification in middle childhood based on direct observation of videotaped interviews, viewed by attachment experts. This breaking down of classification to the specific observational level through the use of a large number of items provided a barrier to the tendency of some coders to decide a priori the

attachment classification of the child and then distribute items analogously. Instead, each item (randomly selected each time) would be ranked based on how characteristic or uncharacteristic the statement displayed was of the child being interviewed. Subsequent objective and automated scoring would then designate the attachment classification of the child, without permitting interference by the coder. An additional reason for selecting Q was that in theory it could easily be modified to accommodate the needs of a particular group, such as culture specific information (Baker et al., 2006), thereby providing the flexibility to be used cross-culturally.

Drawing on the above, Q-technique was selected as the method for developing the CAQ. The CAQ was designed to provide a holistic assessment of the child's attachment representations, and coupled with observations of behavior in the interview setting, which is designed to stress the attachment system, the 80 items that are Q-sorted supply information about all four of the attachment classifications. Therefore, when a Q-sort is completed, the distribution of items presented to the coder provides an overall description of the child and as a result the full spectrum of attachment behavior is represented. Finally, a child is assigned a score for each of the attachment classifications, thus allowing the possibility to compare scores across the different classifications. In some cases, a child may have a tied or a borderline score between two classifications. This in and of itself can be quite useful when assessing children, thus prompting the researcher to take a closer look as to why this has occurred and what it indicates about a particular child.

When using the CAQ coding and classification system, the following information is available to the rater: (a) an overall distribution of the 80 items corresponding to the attachment behavior of the child; (b) a score for the Secure, Dismissing, Preoccupied, and Disorganized scales; and (c) a main attachment classification of Secure, Dismissing, Preoccupied, and Disorganized, with a secondary attachment classification assigned for Disorganized children. All three results provide a valuable source of information that could be used by a researcher or a clinician interested in examining a child's attachment trajectory. Specifically, by comparing the Q-sort distributions at various time intervals, a researcher can track particular behavioral changes each time. This can be achieved by comparing items that have shifted in the array, in other words observing which items are ranked differently along the distribution continuum from one testing to the next. This could be particularly useful for a clinician interested in observing changes that are the result of treatment,

or changes in relevant or personal circumstances, such as a new court-mandated contact arrangement with parents following divorce.

Furthermore, a comparison of scale scores provides the opportunity to assess any changes in the scores over time across all four attachment categories. For example, a child may at a given point in time display higher to lower scores in the following order: Dismissing, Secure, Preoccupied, and Disorganized, but at a later time display a shift, for example Disorganized, Dismissing, Secure, and Preoccupied. By simply comparing scores at the various time intervals, a researcher or clinician could easily detect a trend and take this into consideration when further analysis is warranted, either in a research setting or potentially in the treatment of a child within a clinical setting.

9.2. CAQ Training System

Initially CAQ Training consisted of a rather simplistic approach that included basic literature in attachment and instructions of completing a Q-sort, which proved to be inadequate, as raters that were really naïve were not able to code reliably. This led to the development of a complete training system, the CAQ Training System, which adopted some features of the CAI manual and training but in a format that allowed remote delivery at minimal cost. The training system comprised the following: (a) a DVD providing illustrations of attachment behaviors of the four categories (Secure, Dismissing, Preoccupied, and Disorganized), (b) a manual with information about each attachment category and explication of items, and (c) a computer program for accurate entry of scores and assignment of attachment classification.

9.3. Synopsis of findings

9.3.1. Reliability

Findings concerning the reliability of the CAQ when used by naïve coders, i.e., individuals with limited knowledge in attachment, were promising: agreement was excellent for assigning primary and secondary classification and in the good to excellent range for CAQ scales. This provided evidence that using the CAQ Training System individuals that were previously naïve with respect to attachment were able to acquire the necessary knowledge to code and classify attachment reliably. However, it is important to acknowledge that testing indicated that a truly naïve coder (as

identified in Chapter 4), offered only basic attachment literature and Q-sort instructions cannot reliably use the CAQ. The original effort asking naïve coders to use the CAQ, by only using a list of items to code attachment, was progressively supplemented in order for the CAQ to achieve satisfactory reliability and validity. Training needed to be significantly more intensive in terms of watching videos illustrating the four types of attachment classifications and reading explications and examples to assist with understanding of items and in identifying relevant attachment behavior. Preparation of the coders was therefore necessary in terms of informing them about what to observe and score, and about what behavior of different kinds of attachment looked like during the interview.

After having undergone the process of training using the CAQ Training System III, the so-called naïve coder was no longer really naïve. What was previously a naïve coder could now be viewed as an individual who, while not an attachment researcher, was capable of using the CAQ correctly after reviewing and internalizing some attachment thinking about children, without the need for face-to-face training and lengthy reliability procedures. The promising reliability results of naïve coders therefore provided evidence that one of the main purposes for developing the CAQ had been achieved, thus lending support to the potential use of the CAQ as a coding and classification system with limited training.

However, it is important to consider this finding with caution, since a limitation of the current study was that the coders used were a convenience sample and the results may have limited generalizability. The CAQ is mainly intended for professionals, such as clinicians, psychologists, social workers and teachers to use. It was not intended to be used by undergraduate or postgraduate psychology students which constituted the majority of coders used in the research of the current thesis. Even though two teachers were included, it is necessary that future testing of the reliability of the CAQ be conducted among professionals who would be interested in measuring attachment among school-aged children. The prospects seem promising, however, professionals are accustomed to working with children in this age group, whereas the coders used in this thesis mostly were not; experience of professionals with other child interview coding systems suggests that such coders will be able to make better judgments of children's behavior and descriptions, i.e., what is within a normal range and what is of concern.

The reliability of CAQ scales through the assessment of internal consistency was high, with the exception of the Preoccupied scale which showed average consistency in one of three studies. This finding was not particularly surprising as Preoccupation has consistently been challenging to assess for other researchers, a fact which was further compounded by the difficulty to have access to a sufficient number of Preoccupied children (Main & Cassidy, 1988; Shmueli-Goetz et al., 2008; Wartner et al., 1994). Nevertheless, this matter should be considered further by conducting research with clinical samples, where it is expected that a sufficient number of Preoccupied children will be identified, providing the opportunity to properly assess and further refine the Preoccupied scale of the CAQ. Research to address this issue is currently underway with a sample of children recruited from an outpatient psychological treatment center in the United States displaying indications of psychopathology and Insecure attachment. It is anticipated that this sample will display a predominance of Dismissing, Preoccupied, and Disorganized attachment and will not only facilitate refinement of the Preoccupied scale, but will also provide the opportunity to adequately assess the usability of the CAQ in a clinical sample. This is particularly important in testing the reliability and validity among a very troubled population, where professionals would likely be interested in assessing attachment.

9.3.2. Validity

Findings concerning validity at the item level provided encouraging results and offered the ability to identify any weaknesses. Results indicated that items of the Secure and Disorganized scales were more valid, while potential issues were identified for the Dismissing and Preoccupied scales. From the codings completed by the author and the feedback from naïve coders, Secure items that reflected was is considered ‘normal’ and Disorganized items that reflected the most problematic type of attachment were easier to identify and rank. This seems to indicate that items at the two extremes are easier to understand or at least recognize, whereas there is more difficulty with the two types of organized Insecure attachment classifications. Perhaps this indicates that the items of the Dismissing and Preoccupied scales may need to be written in a clearer and more transparent manner. By the same token, this may point to a difficulty in identifying behaviors related to Dismissing and Preoccupied attachment, because these forms of stable attachment behavior have probably developed as adaptations to (respectively) down- and up-regulating behavior on the

part of parents; thus, the child's responses may not look to coders like attachment-relevant behavior. For example, a child who seems bored or flummoxed by the questions, might be seen by the coder as just not very interested in talking about their family or embarrassed to be interviewed by a stranger. The attachment expert, on the other hand, might recognize this as characteristic of an emotional and cognitive detachment from dependence on parents usually seen when parents have been dismissing and discouraging of such dependence. Another suggestion could also be that Dismissing and Preoccupied attachment behavior may operate along a single continuum (i.e., overlapping rather than opposite strategies), resulting in difficulties in coding certain items corresponding to either the Dismissing or Preoccupied scale. This could be illustrated by the difficulty with Item 44 ("Very disrespectful of the parent and the parent's role (without intense anger)...) from the Dismissing scale, which in two of the three studies, was often more than not a characteristic of Preoccupied children. When coding, this item often posed a challenge to rank because there were instances where Preoccupied children were very disrespectful of the parent's role but with intense anger, making the statement partially true, and there were other instances where Preoccupied children were disrespectful without intense anger, as were some Dismissing children. Certainly this difficulty also suggests a limitation in assessing validity at the item level (rather than classification), and since attachment strategies are patterns of many habitual reactions to the subject of relating to the parents, no single item represents a litmus test of any attachment category. However, further research could allow more evidence to be gathered on whether there are particular problems with items that do not seem to 'belong' to the assigned category and do not form a pattern with the other features expected in a child's attachment strategy. It would be particularly interesting to assess further data collection on whether the two organized, Insecure patterns are two sides of the same coin, or as was first assumed, opposite strategies in response to opposite parenting styles (consistently more rejecting versus confusing and involving).

Support for the construct validity of the CAQ was provided by associations being overall in the expected direction with original CAI scales using the CAQ scores of the author, but most importantly by high agreement between primary and best fitting attachment classifications between the author and all six naïve raters. This supported the notion that using the same interview protocol, but different approaches to attachment coding were tapping the same attachment constructs. Further, it lends

support to the idea that the two coding and classification systems for videotaped CAI narratives, the CAQ and the original CAI method, can be viewed as complementary, rather than substituting each other, offering researchers different approaches to coding and classifying the interviews of children.

Taken together, the empirical findings offered support that the CAQ provided a platform for assigning attachment scores and classifications to children administered the CAI interview protocol. Further, findings seemed to indicate that the CAQ was more sensitive than the CAI coding system in identifying Preoccupied attachment, a limitation of the CAI that the CAQ did not aim to address, but nevertheless seemed to achieve. Concerning the aim of the CAQ to improve classification of Disorganized attachment, the findings were promising and encouraged the author to continue with further assessment of validity, however as the cases were too few, it is difficult to make a definitive conclusion. Another ongoing study, mentioned previously, using a clinical sample from the US, will also further compare the ability of the CAQ to code and classify Preoccupied and Disorganized strategies, in comparison to the CAI providing the ability to draw conclusions with more certainty.

Further validation of the CAQ was undertaken examining discriminant, concurrent, and predictive validity. The findings indicated encouraging results, but also highlighted areas where further research is needed. Concerning discriminant validity with respect to intelligence and expressive language, attachment as measured by the CAQ emerged as a separate construct. When examined in relation to symptomatology, again the CAQ demonstrated validity as a tool for measuring attachment. However, some concerns were raised for the ability of naïve coders to differentiate between behavior of the child that was unrelated to attachment and how this may have influenced their coding and classification. Perhaps this could be attributed to the fact that the coders used in the empirical studies reported in this thesis did not have any experience working with children during middle childhood or clinical settings.

Another possibility is that general psychopathology, lack of social skills or other aspects of a child could be mistaken in a coding system for insecurity. For example, perhaps a child who is depressed, but usually has a Secure attachment to the parents, might come across as Dismissing because he/she has a flat engagement with the interviewer, i.e., cannot think of anything to say or does not talk much, but in fact the child is not Dismissing of attachment. What is coming across in the interview is

the state of mind of the child in general, i.e., he/she is dismissing of life and not of attachment relationships. Another example could be a child who comes to the interview and is hyperactive and silly because of having attended a party before the interview and cannot calm down and sit still during the interview. This could affect the rater to incorrectly score Disorganized items more highly.

Another consideration related to this point is that naïve raters may have value judgments concerning children classified as Secure and Insecure. Hence, their codings may be influenced by other aspects unrelated to attachment. For example, naïve coders may be influenced to think that a nice child or one that seems to say positive things about the parents, e. g., "I love my mom and dad," is likeable and seems to like their parents, this may then lead the rater to assign high scores on all of the items offering positive descriptions of the child ('halo effect'). However, it is an important feature of attachment theory and research that a child may be Securely attached and yet still be quite unhappy, not like his/her parents, and describe a difficult family situation. If that child provided good adjectives and supporting examples during the attachment interview, his or her state of mind with respect to attachment would rightly be coded as Secure. Perhaps further enhancements to the Training System are needed to train coders to disregard such influences.

These considerations will be further tested in research underway testing the validity of the CAQ among clinicians and psychologists. This research is expected to elucidate if the propensity of naïve coders to conflate non-secure attachment and psychopathology was due to limited experience working with children or if further revisions to the Training System are necessary. The distinction between attachment disorder or Disorganization and mental health symptoms is not a clear-cut one, even in principle, and even for clinicians. It was therefore very encouraging that the author (more experienced in clinical issues and knowledgeable about the attachment literature than the naïve coders) was able to differentiate these signs in the interviews, leading to the conclusion that the CAQ could be seen to have discriminant validity with respect to psychopathology when used by experienced professionals.

Further assessment of validity involved comparing the CAQ to existing attachment measures, providing some evidence of concurrent validity with adequate agreement observed with the SAT. As the SAT is not a well validated attachment instrument, a recurrent shortcoming for attachment measures in middle childhood, it is important that concurrent validity is further assessed in new samples by comparing

the CAQ to other existing instruments. This could be achieved by comparing the CAQ classifications to the FFI (Steele & Steele, 2005), another interview based instrument for assessing attachment. Although beyond the scope of assessing concurrent validity, it would be interesting to assess if the CAQ could be applied to the videos collected through the interview protocol of the FFI. As both interviews are tapping attachment, it might be reasonable to assume that the Q-set developed for the CAI may also be applicable to another interview based measure activating the attachment system.

Another way to assess the concurrent validity of the CAQ could be by developing a behavioral measure looking at separation anxiety between parent and child for middle childhood. To achieve this, a researcher could take advantage of naturalistic situations where there is a major separation and observe whether the behavioral reactions of children correlate with CAQ scores and classifications. For example, separation anxiety could be measured by coding the behavior of children going away on a school trip for one week, a routine occurrence for school-age children. The process would involve observing the children at the time of separation and coding their behavior. Perhaps this coding could be completed by a teacher, providing the opportunity for attachment to be assessed by multiple informants.

Assessment of predictive validity by comparing the CAQ to the AAI demonstrated a weak association, however multiple reasons could have contributed to this (as explained in Chapter 8). An interesting research topic for future research that arose from poor concordance between parent and child attachment status was to examine to what extent the state of mind of a child with respect to attachment is influenced by context, intervening events, and life events in general. Although the current findings cannot elucidate on this matter, it seems to be an important issue in the general task of trying to measure attachment, in middle childhood and at any period of development. Nevertheless, the fact that high agreement was observed between the attachment assessed in early childhood by the MCAST and in middle childhood by the CAQ does suggest a reasonable degree of robustness of attachment category, across types of material and a three year gap. For a summary of overall findings, please refer to Table A-60 in Appendix A.

To further assess the predictive validity of the CAQ and the ability of Q-technique to assess attachment across the lifespan, a longitudinal study could be conducted, administering the AQS (Waters & Deane, 1985) to toddlers, the ASCT (Bretherton et al., 1990), coded using the Q-sort developed by Miljkovitch and

colleagues (2004) to preschoolers, the CAQ to school-age children and the AAI (George et al., 1985) to adults coded using the Attachment Interview Q-sort (Dozier & Kobak, 1992; Kobak et al., 1993).

9.3.3. Naïve coder

When examining the validity of the CAQ, naive coders were consistently included in the analyses for two reasons: (a) to assess in practice the usefulness of the CAQ to potentially provide a means for professionals interested in measuring child attachment outside a research setting, and (b) to examine if two coders are needed to produce valid results or whether one coder would suffice. The findings provided encouraging signs that professionals such as clinical and educational psychologists and social workers could indeed learn to use the current method of coding and classifying attachment using Q-technique (see Table A-59 in Appendix A for a summary of findings). However, substantial further work needs to be undertaken examining the validity of both the CAQ and the interview protocol (the CAI) in the context of severe maltreatment encountered in clinical settings or in court cases. Further, as comprehensive assessment including measurement of attachment is considered a vital aspect of providing appropriate care to children with complex early histories inclusive of abuse, trauma, foster care, and multiple placements (Weidman, 2014), the importance of conducting further research to validate the CAQ and CAI in relevant settings is increasing. An early step in this direction has been the development and pilot testing of a version of the CAI designed specifically for children in long-term foster-care, covering first their experience of the foster carers, and then their memories of their families of origin, and their understanding of the separation(s) from the birth parents (Joseph, O'Conner, Briskman, Maughan, & Scott, 2014). Engaging in this research will pave the way for developing an appropriate measure with increasing usability among a population of professionals that increasingly require a valid and reliable instrument for assessing attachment. Further, this research may provide interesting new directions and further refinement of the CAQ.

After extensive testing of the validity of the CAQ in the settings mentioned above, a possible future development of the CAQ that may find increased applicability in relation to children with complex histories, would be to include assessment of Reactive Attachment Disorder (RAD) which is currently a problematic research area, partly due to the absence of a validated measure that can assess the

existence of an attachment relationship, which is the key determinant for RAD (O'Connor, 2005). None of the existing measures for the assessment of the Secure or Insecure attachment are able to identify RAD because these measures consider the existence of an attachment relationship as a given and focus on assessing the response of children through the uses of various methodologies (O'Connor, 2005). Further, research has primarily been conducted on samples with an existing attachment relationship, and therefore the need never seemed to arise for the development of such a measure.

A preliminary idea could be to develop a packet that will involve a battery of tests focused on assessing the multiple facets of attachment in middle childhood. At the moment the CAQ has been developed to assess the Security or Insecurity of the attachment relationship formed between the child and the primary caregiver, but perhaps it would be interesting not to consider as a fact that a child has formed an attachment relationship. Rather the battery of attachment tests would begin with one that assesses RAD and only if this measure indicated the presence of an attachment relationship then the child would proceed with the CAQ. A further suggestion for this battery of tests would be the addition of a measure for the different types of Disorganization. But again this test would only be utilized once a RAD measure identifies the presence of an attachment relationship and the CAQ identifies Disorganized attachment. This battery of tests would work in a sequential order, thus avoiding overburdening vulnerable children with stressful tests unnecessarily.

9.3.4. Contributions of the CAQ

The CAQ has attempted to contribute to the field of attachment theory and attachment measures in the following ways.

First, creating the item set through the direct observation of attachment provided the opportunity to contribute information that could work towards creating an operational definition of attachment, a construct that is abstract and cannot be measured directly (Barrett, 2006). At the moment, as a definitive operational definition does not exist, it is often difficult to compare attachment measures with certainty that the same aspects of the attachment constructs are being tapped and measured.

Second, breaking down each attachment classification into 20 items provides a preliminary indexing of emotional, cognitive, and behavioral features of each attachment category for middle childhood. Indexing of attachment classifications can

further be expanded upon by future research using new and diverse samples of children and by collaborating further with experts in the field of attachment and child development. The availability of a widely accepted index for each attachment classification might prove pivotal for unity in attachment measures for middle childhood and the development of a gold standard.

However, it is important to mention that the actual interview completed using the CAI and the coding using the CAQ, only provides capturing of the emotional and cognitive attachment responses, to a certain degree. In actuality, there is only limited direct observation of emotional and cognitive aspects of attachment and hence internal working models (IWM). Concerning assessment of attachment, this seems to be true for most non-behavioral attachment measures. The only instrument that provides the opportunity to observe direct assessment of attachment behavior which allows inference of internal working models is the Strange Situation (Ainsworth et al., 1978), a behavioral instrument of attachment, as manifested for example by approach avoidance behavior.

Once assessment moves to the level of representation, it is possible that no particular attachment instrument could be considered as providing a means for directly assessing cognition and affect related to an IWM of attachment. With the CAQ these mental schemas are inferred from responses such as the child looking away and not being able to remember anything relevant to the questions by using theory of memory systems and attachment behavior to extrapolate to an internal working model that involves downregulating affect and avoiding thinking about attachment. However, it is not possible to know with certainty that when a child looks bored or has nothing to say, that the child is not indeed simply bored and the observed affect is unrelated to attachment questions being asked. Similarly a child who during the interview is hyperactive may simply be excited about an event he/she will attend after completing the assessment with the interviewer, rather than indicative of attachment Disorganization. Therefore, assessment of attachment using the CAQ is indirect and based on inference, rather than direct observation of the internal attachment model of each child. Hence, the reactions observed during the interview, in terms of speech, behavior, and content of the narrative are only an indirect reflection of the assumed internal working model of each child and the preliminary index provided by the CAQ and mentioned above should be considered with caution. A future study which would enable this to be established with greater confidence

would involve administering, in a session very close to the CAI interview, an equivalent interview about a non-attachment subject of relevance to children e.g., favorite sports, TV, or holidays. In principle, the same extra-interview factors should operate, allowing the coder to distinguish what emotions and cognitive styles seem specific to the attachment content.

9.3.5. Using Q-Sort and the Experience of CAQ

A caution is in order here, however. Through the experience of the author completing over 150 attachment codings using the CAQ and developing a system to train naive coders, it has become apparent that using Q-technique for assessment is more complicated than presented in the literature (Block, 2008; Waters & Deane, 1985; Westen & Shedler, 2007).

To code each case takes about one hour for a new rater. As the rater gains experience, the time to code is reduced to about 30 to 40 minutes. However, regardless of experience gained in coding, the process can take over an hour to complete for challenging cases, often requiring more than one viewing of the interview. This results in a coding process that can actually take several hours to complete at a satisfactory level, i.e., that the coder is content that the distribution of items is representative of the particular child. Further, for the CAQ to be efficient, the number of interviews coded should not exceed a maximum of three per day. When more than three interviews are coded, rater's fatigue sets in leading to skewed codings because the coder begins confusing information between various interviews. Observing the CAQ process, it became clear to the author that Q-sorting by a fatigued or distracted coder leads the coder to incorrectly place items in the opposite end of the distribution, resulting in incorrect coding of the relevant case.

If the CAQ were to be used by professionals and/or researchers to characterize or track individual children in difficulties or being repeatedly assessed, a coder would presumably only code occasional interviews, perhaps a maximum of one or two per week, so the fatigue factor would not be a problem. The opposite problem might also occur, which is that a coder might only need to use the interview rarely which would itself present the risk of drift from the intended use of the measure. In such a case however, the use of the digital training materials should allow a coder to return to accurate measurement.

9.4. Limitations

One limitation of the research conducted for the present thesis was that expert coders were not involved. Testing of the CAQ by experts in the field of attachment and child development would provide important, if not crucial, information concerning the psychometric properties of the CAQ and the instrument's usefulness in non-clinical and clinical settings. The only exception was a small number of cases coded by MT in the first pilot study of the CAQ, however as explained in Chapter 4, this may have potentially introduced bias into the data, as MT was one of the developers of the CAI. Although her expertise in attachment and knowledge of the CAI was considered an advantage, to further and adequately assess validity, it is necessary to conduct future studies including raters with extensive knowledge in child attachment, but no exposure to the CAI or any similar attachment measures. These individuals would be able to complete codings of attachment interviews without being influenced by the way the original CAI system codes the same interview material.

Furthermore, including the codings of AT, trained in the CAI and involved in the development of the CAQ Training System, throughout the research in the present thesis may also have introduced bias into the results. Therefore, future studies should also include ratings from individuals that had no involvement in the development of the CAQ, did not take part in any training related to the original CAI coding system, hence they will not be influenced to make the same judgments in the same way that one does with the CAI system or have a vested interest in the outcome of the study. Such studies are expected to enhance findings concerning the validity of the CAQ. In addition, invaluable contributions to the assessment of validity and improvement of the CAQ Training System would be provided by clinicians with experience in working with children, constituting the expert coders.

Cross-cultural assessment of the CAQ was another limitation of the current study, in that the samples of children used mainly consisted of Caucasian children recruited in the United Kingdom (UK). Future studies should aim to include children from other ethnicities within the UK, assessing if the CAQ is appropriate for children with different cultural backgrounds or if modifications need to be made to the CAQ items. Furthermore, future studies should endeavor to administer the CAQ in other non-Western countries to assess the usability of the CAQ and psychometric properties with diverse groups, contributing to cross-cultural assessment.

The current research may in some ways have been limited by the sample of CAI videos available. Although the developers of the CAI (Shmueli-Goetz et al., 2008) attempted to apply a strong stability test by using multiple interviewers, it was recognized that lack of substantial training may have affected the types of responses elicited by different interviewers. Specifically, the author of this thesis noticed that the competence of the interviewer to administer the CAI as instructed by the protocol influenced the types of responses elicited from the child concerning their attachment relationship with their caregiver. The CAI protocol among other instructions, emphasizes to the interviewer to consistently hold "in mind the importance of assessing the child's view of the relationship by eliciting Relationship Episodes" (Target et al., 2005, p. 2), which is an interaction between the child and the attachment figure (Shmueli-Goetz et al., 2004). Furthermore, some children may need assistance when communicating information, and this should be provided in the form of scaffolding (Target et al., 2005), by providing relevant cues or prompting the child as needed during the interview (Shmueli-Goetz et al., 2008; Target et al., 2005). When watching the interviews, it was quite evident that in some instances, the interviewer did not adhere to the protocol in these ways. Consequently, these interviews were impoverished in attachment related information, making the task of the coding using the CAQ quite challenging and less likely to be produce valid results.

Consistency and quality of the interview process, as can be controlled by the interviewer, is an important issue that should be addressed in future studies because a coding and classification system can only be as good as the information that is entered. Therefore, future versions of the CAQ should delve into improving training for interviewers. However, to keep in line with the purpose of the CAQ to provide an instrument requiring limited training, information for properly conducting an interview could be incorporated into the four training videos that individuals watch for each attachment classification. Perhaps, examples of poorly administered CAI could be included along with commentary about the mistakes made. These videos could be contrasted to the four training videos to show how an interview can be conducted effectively and ineffectively, thus exhibiting how this will limit the ability of coders to accurately classify the attachment of each child.

A further limitation mentioned in Chapters 7 and 8, is that in terms of representativeness, the current sample was lacking. In addition, the specific analyses

conducted for the various types of validities examined in this thesis, resulted in small sample sizes due to the availability of specific data being limited, e.g. CBCL or SAT. Furthermore, small sample size, limited type and severity of clinical problems, lacking information about context and risk factors, low frequency of Disorganized and Preoccupied classifications resulted in findings being interpreted with caution and thus providing only some evidence of validity.

To address the limitations mentioned above, future studies should aim to collect larger samples from both a normative and in particular clinical population providing the opportunity to observe more cases of both Preoccupied and Disorganized children. When collecting data from the clinical population, particular attention should be focused on collecting data regarding contextual information such as risk factors in the environment and recent traumatic events that may influence the narrative of the child during the attachment interview. It would be interesting to conduct studies with clinical samples of varying degrees of severity to assess to reliability and validity of the CAQ under more challenging circumstances. For example, conducting research using the CAQ in orphanages, where is it expected that a large proportion of children will be Disorganized. Will the CAQ perform well under these circumstances or will modifications be needed? It is possible that the findings of this research may indicate that the CAQ may need to evolve into an instrument with varied versions based on the populations being measured. Another clinical sample with possibly a different degree of clinical severity or different type of clinical problems, may be children with serious psychological and psychiatric problems. Therefore one of the critical next steps in assessing the reliability and validity of the CAQ is to examine if it performs better or worse with new clinical samples with a greater range and presence of clinical issues.

9.5. Future Research & Further Development

9.5.1. Qualitative Analysis of Coding Systems

An important qualitative study for the future could be a comparison across the coding systems of existing attachment measures in middle childhood, to see how different systems describe each attachment classification. This would help identify commonalities, differences, and gaps. A recurrent issue when reviewing the literature and instruments in middle childhood was the absence of clear descriptions and indices

for attachment classifications for this age group. This was also evident in the training manual of the CAQ, where the descriptions provided of the various classifications were drawn from the original CAI manual, and since information was limited, this seemed the best approach at the time. However, future observational studies of this age group should be undertaken to help enrich this impoverished area of knowledge and in turn enrich the CAQ.

9.5.2. Refining Disorganized Classification

Children showing Disorganized attachment behavior constitute a perplexing type of relating that has yet to be fully analyzed by researchers. Unlike the 'organized' Secure and Insecure patterns, Disorganized children are seen as showing a lack of strategy, often with contradictory behavior towards a caregiver (or in an interview, in relation to discussion of the caregiver or of attachment in general). As very troubled children comprise this group, with research repeatedly pointing to the negative correlates related to this type of attachment classification, it is essential that further research is conducted to understand in more detail Disorganized attachment, its measurement, and possibly delineate its origins. It seems that beyond early childhood there is very limited information about the actual behaviors and tracking of developmental pathways of these children. As researchers are repeatedly emphasizing, it is vital that the Disorganized/controlling behavior observed in early childhood is subsequently examined in middle childhood to allow understanding of their trajectories across the life span (Lyons-Ruth & Jacobvitz, 2008; Moss et al., 2005). A possible solution to this issue might be for researchers to conduct observational studies, similar to the way Ainsworth (1978) studied attachment in infancy and Main and Solomon (1990) described Disorganized children and subsequently developed a procedure to identify this type of attachment. If the precursors and actual manifestation of Disorganized attachment is not more fully understood and analyzed in middle childhood, it seems only logical that difficulties in measuring this type of attachment in middle childhood will persist.

A review of the literature in middle childhood, indicated that indices of behaviors similar to the ones proposed by Main and Solomon (1990) do not seem to exist, at least to the knowledge of the author. With the development of the CAQ an effort was made to create an index of Disorganized behaviors by studying the interviews of children from Romanian orphanages. However, further observations seem warranted to ascertain that the spectrum of Disorganized attachment behavior is

covered adequately, since the sample used for the CAQ cannot be considered representative of the general population of Disorganized children. Therefore, future studies should focus on recruiting children with Disorganized attachment providing the opportunity to further test the ability of the CAQ to measure Disorganized attachment and to identify potential modifications to the items corresponding to this attachment category.

Generally, the population of Disorganized children is quite difficult to have access to and subsequently study across the life span. A small percentage of children in the general population are Disorganized, therefore it is usually 'natural experiments' that researchers depend on to have access to the range of phenomena of Disorganized attachment in children. Future research to expand knowledge of Disorganized attachment cross-culturally could be conducted at orphanages or institutions in various countries providing the opportunity to observed manifestations of Disorganization and conduct longitudinal studies tracking the trajectory of Disorganized children across the life span. There is no doubt that this entails a large and expensive collaboration among a large group of researchers worldwide, however if conducted it could achieve multiple purposes of enhancing knowledge of Disorganized attachment, improving the CAQ Disorganized scale, and testing the CAQ cross-culturally. Care would have to be taken, of course, not to make the assumption that all children with known familial disruption or maltreatment must be Disorganized, and not to confound attachment indices with other difficulties children might have, for example in cognitive development and social skills.

9.5.3. CAQ Child Version

An interesting future development to consider could be to design a Child Version of the CAQ, in other words a set of items that would be Q-sorted by the child being assessed. It seems reasonable to expect that a child between the ages of eight to 12 years of age would be able to comprehend the concept of reading and ranking statements appearing on cards. However, for this to be feasible, statements would need to be written in a simple, clear, and comprehensible manner appropriate for the cognitive level of children in this age group. Also, the items set would need to be reduced and the process of ranking and completing the distribution would have to be simplified. And perhaps the best approach to achieving this would be to make a computer program of the CAQ Child Version as children are increasingly familiarized

with computer games, thereby making the process seem more like a game rather than a test.

Although such an endeavor may be challenging to achieve, requiring extensive research and piloting to create an appropriate Q-set, distribution and instructions, the end result would most probably justify the effort. An instrument could thus be available allowing researchers and clinicians the opportunity to measure attachment from the perspective of the child. Juxtaposing the attachment scores and classifications yielded by the CAQ Child and Observer version could potentially provide a rich source of information. Similarities and possible contradictions between the two assessments may provide fertile ground for further research giving rise to aspects of attachment that have not been considered previously. For clinicians this can also provide helpful insight that could inform treatment and progress.

9.5.4. Increased usability

An issue raised by Crittenden (2005) is that even if one completes training and receives certification as a reliable coder, if the skills acquired are not used and practiced extensively, they are forgotten. Further, coding independently for extended periods of time or only working with another rater within the same setting can yield strong agreement, but it may be the product of close collaboration and result in thinking as one mind. The actual agreement may have shifted away from the standards intended by the developers of a particular instrument. Therefore, Crittenden (2005) stressed the importance of collaborating with others and periodically referring back to the original training videos.

This limitation is rather minimal with the CAQ. The CAQ Training System by its very conception and design had as its aim the creation of an instrument that required limited training and could be completed independently. The availability of the CAQ Training System, which includes the DVD, Manual, and Computer program affords any researcher and clinician the opportunity to repeat the training at any time, without incurring additional costs or investing a significant amount of time. Further, to enhance the usability of the CAQ in the future, a laminated sheet referencing key aspects of coding might prove useful to remind coders of details that may easily be forgotten, but are important for effectively scoring and classifying attachment. In a way, this will be a quick reference guide reminding the coder of the instructions and important points for coding attachment using the CAQ.

An issue that seems to be of importance to clinicians is the time efficiency of available attachment instruments (O'Connor & Byrne, 2007; Scott et al., 2011). In future studies it may be useful to assess if the CAQ can be coded reliably without using a verbatim transcript, which is a very time consuming process. This could potentially save clinicians several hours of work per case. Well known instruments that use Q-sort such as the AQS(Waters & Deane, 1985), SWAP (Westen & Shedler, 2007) and CQ procedure (Block, 2008) are all coded directly from observations. Therefore, it may be possible to apply this same approach to the CAQ successfully.

Furthermore, if these results are promising perhaps testing an abbreviated version of the CAI may also prove fruitful and may help accomplish the goal of providing an instrument that requires limited training and time efficiency. One way of doing this may be to shorten or remove the first segment of the interview where the child is asked to provide adjectives and examples to describe him/herself.

At the present moment, it is important to mention that although the CAQ has made available a coding system for the CAI (attachment interview) that can be used more easily and can be learned by a person that does not have training in attachment, the fact remains that in order to assess the attachment of a child with a complex history and circumstances, there is no more reliable and valid way to complete the CAQ than to have a clinically skilled interviewer conduct and videotape the attachment interview which can then be coded by an assistant. However, that process requires the investment of about one hour, video recording equipment, and familiarity with the CAI on the part of the interviewer. Although this may not still constitute the quickest way to assess attachment, it is a substantial improvement on the training required to code using the original CAI system. Therefore, at the current moment, the CAQ is at a half way stage to finding a more time efficient way of assessing a construct as complex as attachment.

9.5.5. Electronic version

In line with contemporary technological developments, an improvement of the CAQ Computer program to enhance its usability and convenience could be to turn it into a touch screen program that will encompass the entire process of watching the interview, sorting the items, and immediately seeing the results of scale scores and attachment classification on the screen. The data then can easily be saved, shared and stored securely. This can remove the fussiness of printing items out on cards, making sure there is enough space to lay out the distribution, and that accidental loss or

shuffling does not occur. Also, if interrupted one can save and return to the Q-sort at a later time, without having to start from the beginning. Furthermore, if the CAQ is turned into an application that could be used on a tablet device, then it could easily be completed from any location and then the data can be easily uploaded and stored for later use and analysis.

Another useful future development could be the addition of a feature where the items of the Q- sort could be further refined from feedback from other researchers, clinicians, experts in attachment and child development. Each individual could log into the same version of the CAQ and write feedback, comments and edit directly on each card item. Then the author could log in and simultaneously review a consolidated version that will display all of the feedback provided for each item. This will save hours of work and allow for greater organization of information. This could also allow for an interactive approach when several experts (regardless of their location) can take part in a virtual discussion of the instrument and the items that appear problematic and require modification. All the participants will be able to view the same version of the instrument and the previous feedback provided, simultaneously. Any changes will be available in real time to all participating individuals. At first consideration this approach appears promising and its possibilities endless.

9.5.6. Conclusions.

This thesis reported efforts to devise a coding and classification system for attachment interviews for middle childhood. The scoring system rather than extrapolate from older and younger age groups was devised on the basis of intensive observations of interviews with a range of children observed and discussed by a group of attachment experts. The salient aspects of children's behavior and narratives were captured in items that clearly described observations and singular features of the interview; in other words the items were intended to be close to descriptions of actual behaviors of children as opposed to being formulated in attachment aspects. This gives the possibility of coders not trained in attachment to be able to score the child's attachment behavior in a reliable manner. Perhaps for the first time this allows professionals and students wishing to characterize the attachment status of children to do so without extensive training and reliability testing which has so far hampered progress in this field.

The results reported give much encouragement that even colleagues with limited, remote access training can indeed use this coding system in a way that is both reliable and valid. The effort to explore the validity of this type of coding system has raised a number of questions that are in fact questions for the whole field of research in attachment. For example, theoretically and practically different distinctions between attachment insecurity and attachment disorder and more general health, social, and educational problems in a child. This work has also highlighted and offered some progress in problematic areas of coding Disorganized and Preoccupied attachment. However, more research is clearly needed in those areas. Some ongoing and future research initiatives to address the outstanding conceptual and empirical issues have been outlined in the concluding discussion.

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APPENDICES

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Appendix A: Additional Data Results

A.1. Chapter 4

Table A-1. Descriptive Statistics Relating to the CAQ Items (*N* = 31).

Items	Classification	*M*	*SD*	Skewness	Kurtosis	Range
Item 1	Disorganized	2.90	1.49	0.89	0.72	1-7
Item 2	Disorganized	3.00	1.61	0.97	0.83	1-7
Item 3	Disorganized	3.74	1.83	0.37	-1.05	1-7
Item 4	Disorganized	3.45	1.52	-0.29	-0.56	1-6
Item 5	Disorganized	3.52	1.12	0.03	-0.11	1-6
Item 6	Disorganized	3.87	1.77	0.17	-0.95	1-7
Item 7	Disorganized	2.87	1.38	0.73	-0.04	1-6
Item 8	Disorganized	3.74	0.82	0.13	-0.75	2-5
Item 9	Disorganized	3.74	1.18	1.06	0.79	2-7
Item 10	Disorganized	4.16	1.51	0.02	-1.08	2-7
Item 11	Disorganized	2.74	1.24	0.75	0.41	1-6
Item 12	Disorganized	4.39	1.17	0.75	0.86	2-7
Item 13	Disorganized	2.00	1.26	1.37	1.83	1-6
Item 14	Disorganized	3.77	1.41	0.43	0.42	1-7
Item 15	Disorganized	2.23	1.48	0.71	-1.06	1-5
Item 16	Disorganized	4.19	1.40	0.33	-0.63	2-7
Item 17	Disorganized	4.61	1.50	0.08	-1.01	2-7
Item 18	Disorganized	3.26	1.44	0.81	0.05	1-7
Item 19	Disorganized	3.81	1.17	-0.14	-0.07	1-6
Item 20	Disorganized	3.65	1.33	0.07	-0.06	1-6
Item 21	Secure	4.58	1.26	-0.52	0.00	2-7
Item 22	Secure	3.65	1.28	0.32	0.23	1-7
Item 23	Secure	4.26	1.50	-0.53	0.01	1-7
Item 24	Secure	4.55	1.46	-0.03	-0.96	2-7
Item 25	Secure	4.68	1.68	-0.58	-0.04	1-7
Item 26	Secure	3.97	1.52	-0.19	0.14	1-7
Item 27	Secure	3.61	1.75	0.28	-0.82	1-7
Item 28	Secure	3.16	2.16	0.56	-1.03	1-7
Item 29	Secure	4.19	1.22	-0.63	0.41	1-6
Item 30	Secure	3.81	1.33	-0.35	-0.17	1-6
Item 31	Secure	3.74	1.26	-0.11	-0.64	1-6

Item 32	Secure	4.03	1.02	-0.88	1.65	1-6
Item 33	Secure	4.35	1.31	-0.43	0.30	1-7
Item 34	Secure	4.48	1.03	-0.35	1.52	2-7
Item 35	Secure	4.00	1.37	0.00	-0.15	1-7
Item 36	Secure	4.06	1.15	-0.13	-0.73	2-6
Item 37	Secure	4.42	1.09	-0.28	-0.68	2-6
Item 38	Secure	4.32	1.25	0.54	-0.21	2-7
Item 39	Secure	4.03	1.99	-0.13	-1.11	1-7
Item 40	Secure	3.94	0.81	0.12	0.76	2-6
Item 41	Dismissing	4.42	1.03	0.03	0.69	2-7
Item 42	Dismissing	3.19	0.75	0.68	0.81	2-5
Item 43	Dismissing	4.26	1.24	0.49	-0.15	2-7
Item 44	Dismissing	3.39	1.02	0.13	0.75	1-6
Item 45	Dismissing	4.52	1.31	-0.04	-0.48	2-7
Item 46	Dismissing	3.74	0.68	-0.30	0.36	2-5
Item 47	Dismissing	4.55	2.10	-0.26	-1.42	1-7
Item 48	Dismissing	4.39	1.33	0.30	-0.83	2-7
Item 49	Dismissing	4.97	1.52	-0.43	-0.43	2-7
Item 50	Dismissing	4.58	1.15	-0.78	1.62	1-6
Item 51	Dismissing	3.61	1.15	1.13	1.44	2-7
Item 52	Dismissing	3.68	0.87	0.38	-1.02	2-5
Item 53	Dismissing	3.90	1.37	0.43	0.03	2-7
Item 54	Dismissing	4.03	1.25	0.48	0.38	2-7
Item 55	Dismissing	4.39	1.20	0.41	-0.02	2-7
Item 56	Dismissing	4.71	1.42	0.10	-0.97	2-7
Item 57	Dismissing	4.77	1.12	0.32	-0.11	3-7
Item 58	Dismissing	4.97	1.68	-0.80	0.26	1-7
Item 59	Dismissing	4.19	1.45	-0.22	-0.50	1-7
Item 60	Dismissing	4.03	1.74	-0.05	-0.90	1-7
Item 61	Preoccupied	3.48	2.14	0.38	-1.29	1-7
Item 62	Preoccupied	5.13	0.96	0.46	-0.64	4-7
Item 63	Preoccupied	2.90	1.08	0.38	1.12	1-6
Item 64	Preoccupied	3.29	0.74	0.00	-0.25	2-5
Item 65	Preoccupied	3.68	1.14	-0.03	-0.90	2-6
Item 66	Preoccupied	4.13	1.67	0.38	-0.47	1-7

Item 67	Preoccupied	4.55	1.12	0.55	-0.22	3-7
Item 68	Preoccupied	4.58	0.92	0.16	-0.81	3-6
Item 69	Preoccupied	4.68	1.05	-0.23	-1.08	3-6
Item 70	Preoccupied	4.16	1.44	0.13	-0.16	1-7
Item 71	Preoccupied	3.42	1.23	0.14	0.09	1-6
Item 72	Preoccupied	3.87	1.50	0.74	-0.22	2-7
Item 73	Preoccupied	4.87	0.81	-0.16	1.77	3-7
Item 74	Preoccupied	4.71	1.40	0.24	-0.69	2-7
Item 75	Preoccupied	4.06	1.24	0.32	-0.11	2-7
Item 76	Preoccupied	4.16	1.13	-0.04	1.75	1-7
Item 77	Preoccupied	4.06	1.39	0.52	-0.45	2-7
Item 78	Preoccupied	5.65	0.80	-0.09	-0.28	4-7
Item 79	Preoccupied	4.81	0.91	0.41	-0.29	3-7
Item 80	Preoccupied	4.48	0.93	0.18	-0.72	3-6

Table A-2. Data Relating to Internal Consistency of CAQ Scales (N = 80).

CAQ scale	Cronbach's alpha	Item	Corrected item total correlation	Cronbach's alpha if item deleted
Disorganized	.96			
(n = 20)		Item 1	.89	.95
		Item 2	.68	.96
		Item 3	.84	.95
		Item 4	.74	.96
		Item 5	.86	.95
		Item 6	.73	.96
		Item 7	.69	.96
		Item 8	.67	.96
		Item 9	.58	.96
		Item 10	.88	.95
		Item 11	.78	.96
		Item 12	.61	.96
		Item 13	.69	.96
		Item 14	.63	.96
		Item 15	.89	.95
		Item 16	.79	.96
		Item 17	.81	.96
		Item 18	.49	.96
		Item 19	.75	.96
		Item 20	.69	.96
Secure	.87			
(n = 20)		Item 21	.20	.87
		Item 22	.46	.86
		Item 23	.52	.86
		Item 24	-.05	.87
		Item 25	.59	.85
		Item 26	.33	.86
		Item 27	.20	.88
		Item 28	.70	.85
		Item 29	.54	.86
		Item 30	.30	.87

		Item 31	.25	.87
		Item 32	.54	.86
		Item 33	.44	.86
		Item 34	.54	.86
		Item 35	.36	.86
		Item 36	.88	.84
		Item 37	.57	.86
		Item 38	.71	.85
		Item 39	.47	.86
		Item 40	.77	.85
Dismissing	.80			
(*n* = 20)		Item 41	.52	.78
		Item 42	.57	.78
		Item 43	.42	.79
		Item 44	.31	.79
		Item 45	.18	.80
		Item 46	.78	.75
		Item 47	.33	.79
		Item 48	.77	.77
		Item 49	.59	.78
		Item 50	.49	.78
		Item 51	.46	.78
		Item 52	.62	.77
		Item 53	.35	.79
		Item 54	.75	.76
		Item 55	-.44	.83
		Item 56	.48	.78
		Item 57	.84	.75
		Item 58	-.18	.81
		Item 59	-.29	.82
		Item 60	-.55	.83
Preoccupied	.89			
(*n* = 20)		Item 61	-.07	.90
		Item 62	.69	.88
		Item 63	.80	.88

	Item 64	.30	.89
	Item 65	.38	.89
	Item 66	.62	.88
	Item 67	.48	.89
	Item 68	.24	.89
	Item 69	.60	.89
	Item 70	.62	.88
	Item 71	.39	.89
	Item 72	.47	.89
	Item 73	.51	.89
	Item 74	.76	.88
	Item 75	.46	.89
	Item 76	.71	.88
	Item 77	.61	.88
	Item 78	.79	.88
	Item 79	.17	.90
	Item 80	.63	.88

Table A-3. Intraclass Correlations of 12 Independent Raters with AT (Gold Standard) for Two Cases.

Rater	Secure case	Insecure case
1	.20	.48
2	.34	.40
3	.28	.51
4	.47	.16
5	.39	.19
6	.61	.53
7	.62	.35
8	.53	.38
9	.67	.16
10	.49	.01
11	.59	.42
12	.59	.35
M (*SD*)	.48 (.15)	.33 (.16)

A.2. Chapter 6 – Group A

Table A-4. Descriptive Statistics Relating to the CAQ Items (*N* = 34).

Items	Classification	*M*	*SD*	Skewness	Kurtosis	Range
Item 1	Disorganized	2.94	1.32	0.45	0.02	1-6
Item 2	Disorganized	2.38	1.44	1.49	2.62	1-7
Item 3	Disorganized	3.41	1.71	0.70	-0.25	1-7

Items	Classification	*M*	*SD*	Skewness	Kurtosis	Range
Item 4	Disorganized	3.29	1.38	0.02	-0.12	1-6
Item 5	Disorganized	3.65	1.20	0.41	0.23	1-6
Item 6	Disorganized	3.00	1.78	0.90	0.16	1-7
Item 7	Disorganized	2.71	1.27	0.60	0.09	1-6
Item 8	Disorganized	3.82	1.14	0.11	0.13	1-6
Item 9	Disorganized	3.53	0.99	1.70	4.21	2-7
Item 10	Disorganized	3.47	1.21	0.83	0.94	2-7
Item 11	Disorganized	2.71	1.06	0.31	-0.23	1-5
Item 12	Disorganized	4.21	1.01	0.69	1.22	2-7
Item 13	Disorganized	2.06	1.01	0.43	-1.02	1-4
Item 14	Disorganized	3.21	1.27	0.34	0.01	1-6
Item 15	Disorganized	1.85	1.18	1.23	0.38	1-5
Item 16	Disorganized	3.76	1.30	0.81	0.58	2-7
Item 17	Disorganized	4.44	1.35	0.83	-0.41	3-7
Item 18	Disorganized	3.15	1.33	1.03	0.99	1-7
Item 19	Disorganized	3.76	1.35	-0.01	0.05	1-7
Item 20	Disorganized	3.18	1.14	0.28	1.14	1-6
Item 21	Secure	5.06	1.37	-0.49	-0.71	2-7
Item 22	Secure	3.97	1.22	-0.05	0.48	1-7
Item 23	Secure	4.68	1.30	-0.50	-0.31	2-7
Item 24	Secure	5.15	1.42	-0.41	-1.06	3-7
Item 25	Secure	5.29	1.29	-0.23	-1.11	3-7
Item 26	Secure	4.35	1.82	-0.50	-0.31	1-7
Item 27	Secure	4.00	1.65	0.13	-0.57	1-7
Item 28	Secure	3.65	2.13	0.03	-1.31	1-7
Item 29	Secure	4.44	1.26	-0.44	0.64	1-7
Item 30	Secure	4.38	1.28	-0.14	-0.52	2-7
Item 31	Secure	3.97	1.17	-0.67	0.80	1-6
Item 32	Secure	4.56	1.02	-0.08	0.56	2-7
Item 33	Secure	4.88	1.27	-0.61	1.28	1-7
Item 34	Secure	4.71	1.36	-0.81	0.84	1-7
Item 35	Secure	4.41	1.42	-0.32	0.73	1-7
Item 36	Secure	4.38	1.23	-0.18	-0.22	2-7
Item 37	Secure	4.76	1.28	-0.08	-0.58	2-7

Items	Classification	*M*	*SD*	Skewness	Kurtosis	Range
Item 38	Secure	4.79	1.12	0.16	-0.77	3-7
Item 39	Secure	4.38	1.83	-0.29	-0.92	1-7
Item 40	Secure	4.32	0.94	-0.26	-0.06	2-6
Item 41	Dismissing	4.53	0.90	-0.23	-0.60	3-6
Item 42	Dismissing	3.12	1.12	0.44	0.41	1-6
Item 43	Dismissing	4.24	1.28	0.36	-0.32	2-7
Item 44	Dismissing	3.26	0.99	0.21	0.81	1-6
Item 45	Dismissing	3.94	1.39	-0.10	-0.49	1-7
Item 46	Dismissing	3.94	0.92	0.37	0.04	2-6
Item 47	Dismissing	4.26	1.96	0.09	-1.30	1-7
Item 48	Dismissing	4.47	1.13	0.14	-0.32	2-7
Item 49	Dismissing	4.82	1.53	-0.01	-0.95	2-7
Item 50	Dismissing	4.47	1.02	0.36	-1.02	3-6
Item 51	Dismissing	3.24	1.26	-0.08	-0.94	1-5
Item 52	Dismissing	3.91	0.90	0.71	-0.22	3-6
Item 53	Dismissing	3.85	1.28	0.66	0.60	2-7
Item 54	Dismissing	3.82	1.19	-0.21	-1.22	2-6
Item 55	Dismissing	4.68	1.04	0.54	-0.13	3-7
Item 56	Dismissing	4.35	1.43	0.18	-0.73	2-7
Item 57	Dismissing	4.56	1.33	-0.01	-0.44	2-7
Item 58	Dismissing	4.82	1.51	-0.75	0.72	1-7
Item 59	Dismissing	3.62	1.41	0.33	-0.39	1-7
Item 60	Dismissing	4.00	1.56	-0.26	-0.50	1-7
Item 61	Preoccupied	3.53	2.00	0.36	-1.10	1-7
Item 62	Preoccupied	4.85	0.89	0.58	0.55	3-7
Item 63	Preoccupied	2.94	1.10	0.70	0.84	1-6
Item 64	Preoccupied	3.53	0.79	0.69	1.88	2-6
Item 65	Preoccupied	3.68	1.12	0.01	-0.92	2-6
Item 66	Preoccupied	3.88	1.32	0.48	0.26	2-7
Item 67	Preoccupied	4.44	1.24	0.09	0.63	2-7
Item 68	Preoccupied	4.65	1.07	0.46	-0.24	3-7
Item 69	Preoccupied	4.65	1.04	0.10	-0.52	3-7
Item 70	Preoccupied	4.03	1.24	0.04	0.58	1-7
Item 71	Preoccupied	3.47	1.11	-0.49	-0.21	1-5

Items	Classification	*M*	*SD*	Skewness	Kurtosis	Range
Item 72	Preoccupied	3.65	1.35	0.78	0.36	2-7
Item 73	Preoccupied	4.85	0.93	0.06	0.98	3-7
Item 74	Preoccupied	4.44	1.24	0.30	-0.45	2-7
Item 75	Preoccupied	4.21	1.34	0.32	-0.46	2-7
Item 76	Preoccupied	4.18	0.97	0.90	1.02	3-7
Item 77	Preoccupied	3.94	1.20	0.45	-0.10	2-7
Item 78	Preoccupied	5.29	0.97	-0.43	0.48	3-7
Item 79	Preoccupied	4.82	0.94	0.61	0.09	3-7
Item 80	Preoccupied	4.41	0.96	0.60	0.41	3-7

Interrater Reliability for CAQ Items

Two-way random ICC, single measures, were computed across the 34 cases between AT (gold standard) and the four raters, and among the raters excluding AT The ICCs ranged between .56 and .83 with a mean of .70 for the comparisons including AT, and between .47 and .79 with a mean of .65 for the comparisons excluding AT. This indicated an overall good agreement between item placement of each case across raters (please refer to Table A-5 for the ICCs for each case).

Table A-5. Intraclass Correlation Coefficients of 80 Items.

Case	Including Gold Standard (AT)	Excluding Gold Standard (AT)
1	.62	.56
2	.64	.58
3	.57	.53
4	.58	.54
5	.66	.61
6	.59	.52
7	.67	.62
8	.78	.73
9	.66	.63
10	.80	.75
11	.81	.76
12	.79	.77
13	.65	.59
14	.83	.79
15	.70	.66
16	.57	.52
17	.70	.67
18	.68	.65
19	.68	.64
20	.73	.69
21	.74	.70
22	.72	.68
23	.79	.75
24	.68	.63
25	.74	.69
26	.58	.52
27	.73	.69
28	.81	.78
29	.81	.77
30	.56	.47

31	.81	.78
32	.67	.61
33	.74	.68
34	.65	.60
Mean	.70	.65
Min	.56	.47
Max	.83	.79

Table A-6. Concordance between C1 CAQ and CAI Main Attachment Classifications (*N* =34).

	C1 CAQ classification				
CAI classification	Secure	Dismissing	Preoccupied	Disorganized	Total
Secure	18	1	1	0	20
Dismissing	1	5	0	0	6
Preoccupied	0	0	3	0	3
Disorganized	0	2	0	3	5
Total	19	8	4	3	34

Table A-7. Concordance between C2 CAQ and CAI Main Attachment Classifications (*N* =34).

	C2 CAQ classification				
CAI classification	Secure	Dismissing	Preoccupied	Disorganized	Total
Secure	18	0	2	0	20
Dismissing	1	5	0	0	6
Preoccupied	0	0	3	0	3
Disorganized	0	1	0	4	5
Total	19	6	5	4	34

Table A-8. Concordance between C3 CAQ and CAI Main Attachment Classifications (*N* =34).

	C3 CAQ classification				
CAI classification	Secure	Dismissing	Preoccupied	Disorganized	Total
Secure	19	0	1	0	20
Dismissing	2	4	0	0	6
Preoccupied	0	0	3	0	3
Disorganized	0	1	0	4	5
Total	21	5	4	4	34

Table A-9. Concordance between C4 CAQ and CAI Main Attachment Classifications (*N* =34).

	C4 CAQ classification				
CAI classification	Secure	Dismissing	Preoccupied	Disorganized	Total
Secure	18	0	2	0	20
Dismissing	2	4	0	0	6
Preoccupied	0	0	3	0	3
Disorganized	0	1	0	4	5
Total	20	5	5	4	34

Table A-10. Concordance between C1 CAQ and CAI Secondary Attachment Classifications (*N*= 34).

	C1 CAQ classification			
CAI classification	Secure	Dismissing	Preoccupied	Total
Secure	18	1	1	20
Dismissing	1	8	1	10
Preoccupied	0	0	4	4
Total	19	9	6	34

Table A-11. Concordance between C2 CAQ and CAI Secondary Attachment Classifications (*N*= 34).

	C2 CAQ classification			
CAI classification	Secure	Dismissing	Preoccupied	Total
Secure	18	0	2	20
Dismissing	1	8	1	10
Preoccupied	0	0	4	4
Total	19	8	7	34

Table A-12. Concordance between C3 CAQ and CAI Secondary Attachment Classifications (*N*= 34).

	C3 CAQ classification			
CAI classification	Secure	Dismissing	Preoccupied	Total
Secure	19	0	1	20
Dismissing	2	7	1	10
Preoccupied	0	0	4	4
Total	21	7	6	34

Table A-13. Concordance between C4 CAQ and CAI Secondary Attachment Classifications (*N*= 34).

	C4 CAQ classification			
CAI classification	Secure	Dismissing	Preoccupied	Total
Secure	18	0	2	20
Dismissing	2	7	1	10
Preoccupied	0	0	4	4
Total	20	7	7	34

In order to assess the number of cases correctly classified in each attachment category (i.e., true positive) a sensitivity analysis was conducted. Results showed that raters correctly identified Secure attachment classifications between 90 and 95% of the time, Dismissing between 67 and 83%, Preoccupied 100% and Disorganized between 60 and 80%. In order to assess the ability of the CAQ to correctly identify a true negative (i.e., cases corresponding to a different attachment classification that are correctly categorized as such), a specificity analysis was run.

The results indicated that raters correctly did not assign a Secure classification to cases between 86 to 93% of the time, Dismissing between 89 to 96%, Preoccupied between 94 to 97% and Disorganized 100%. Finally, assessment of overall correct classification ranged between 88 to 91% for Secure, 88 to 94% for Dismissing, and 94 to 97% for both Preoccupied and Disorganized. Specific percentages per rater can be found in Table A-14.

Table A-14. Assessment of CAQ Sensitivity and Specificity.

	Sensitivity	Specificity
AT		
Secure	90%	93%
Dismissing	83%	96%
Preoccupied	100%	94%
Disorganized	80%	100%
C1		
Secure	90%	93%
Dismissing	83%	89%
Preoccupied	100%	97%
Disorganized	60%	100%
C2		
Secure	90%	93%
Dismissing	83%	96%
Preoccupied	100%	94%
Disorganized	80%	100%
C3		
Secure	95%	86%
Dismissing	67%	96%
Preoccupied	100%	97%
Disorganized	80%	100%
C4		
Secure	90%	86%
Dismissing	67%	96%
Preoccupied	100%	94%
Disorganized	80%	100%

Table A-15. Data Relating to Internal Consistency of CAQ Scales (N = 80).

CAQ scale	Cronbach's alpha	Item	Corrected item total correlation	Cronbach's alpha if item deleted
Disorganized	.85			
(n = 20)		Item 1	.03	.86
		Item 2	.50	.84
		Item 3	.67	.83
		Item 4	.27	.85
		Item 5	.41	.85
		Item 6	.36	.85

		Item 7	.57	.84
		Item 8	.60	.84
		Item 9	.55	.84
		Item 10	.37	.85
		Item 11	.06	.86
		Item 12	.66	.84
		Item 13	.21	.85
		Item 14	.70	.83
		Item 15	.11	.86
		Item 16	.65	.84
		Item 17	.54	.84
		Item 18	.63	.84
		Item 19	.46	.84
		Item 20	.41	.85
Secure	.96			
(*n* = 20)		Item 21	.88	.95
		Item 22	.67	.96
		Item 23	.86	.95
		Item 24	.79	.95
		Item 25	.82	.95
		Item 26	.69	.96
		Item 27	.64	.96
		Item 28	.70	.96
		Item 29	.61	.96
		Item 30	.88	.95
		Item 31	.79	.95
		Item 32	.55	.96
		Item 33	.65	.96
		Item 34	.72	.96
		Item 35	.75	.96
		Item 36	.79	.95
		Item 37	.63	.96
		Item 38	.62	.96
		Item 39	.73	.96
		Item 40	.77	.96

Dismissing	.90			
(*n* = 20)		Item 41	.41	.89
		Item 42	.21	.90
		Item 43	.54	.89
		Item 44	.09	.90
		Item 45	.60	.89
		Item 46	.43	.89
		Item 47	.39	.90
		Item 48	.68	.89
		Item 49	.52	.89
		Item 50	.59	.89
		Item 51	.35	.90
		Item 52	.55	.89
		Item 53	.51	.89
		Item 54	.72	.89
		Item 55	.52	.89
		Item 56	.88	.88
		Item 57	.57	.89
		Item 58	.68	.89
		Item 59	.56	.89
		Item 60	.70	.89
Preoccupied	.85			
(*n* = 20)		Item 61	.62	.84
		Item 62	.60	.84
		Item 63	.42	.85
		Item 64	.58	.84
		Item 65	.06	.86
		Item 66	.72	.83
		Item 67	.26	.85
		Item 68	.72	.83
		Item 69	.61	.84
		Item 70	.55	.84
		Item 71	.45	.84
		Item 72	.63	.83
		Item 73	.34	.85

	Item 74	.69	.83
	Item 75	.08	.86
	Item 76	.64	.84
	Item 77	.81	.83
	Item 78	.28	.85
	Item 79	-.12	.86
	Item 80	-.17	.86

A.3. Chapter 6 – Group B

Table A-16. Descriptive Statistics Relating to the CAQ Items (*N* = 35).

Items	Classification	*M*	*SD*	Skewness	Kurtosis	Range
Item 1	Disorganized	3.03	1.10	-0.06	-0.55	1-5
Item 2	Disorganized	2.17	1.48	1.52	2.10	1-7
Item 3	Disorganized	3.74	1.52	0.09	0.18	1-7
Item 4	Disorganized	3.54	0.89	-0.81	0.93	1-5
Item 5	Disorganized	3.74	1.34	0.27	-0.11	1-7
Item 6	Disorganized	3.14	1.82	0.52	-0.68	1-7
Item 7	Disorganized	3.26	0.95	-0.56	0.35	1-5
Item 8	Disorganized	3.57	0.98	-0.21	0.04	1-5
Item 9	Disorganized	3.43	1.12	0.39	2.51	1-7
Item 10	Disorganized	3.69	1.47	0.64	0.55	1-7
Item 11	Disorganized	2.43	0.98	0.21	-0.87	1-4
Item 12	Disorganized	4.03	0.79	1.49	5.04	3-7
Item 13	Disorganized	3.29	0.96	-0.62	0.34	1-5
Item 14	Disorganized	2.83	1.62	1.13	1.02	1-7
Item 15	Disorganized	2.20	1.11	0.69	-0.26	1-5
Item 16	Disorganized	3.91	1.15	1.17	1.39	2-7
Item 17	Disorganized	4.14	1.38	0.95	0.01	2-7
Item 18	Disorganized	3.63	1.14	0.55	0.76	2-7
Item 19	Disorganized	3.49	1.04	-0.29	-0.41	1-5
Item 20	Disorganized	3.57	1.22	0.49	0.16	1-6
Item 21	Secure	4.74	1.36	-0.03	-0.79	2-7
Item 22	Secure	3.46	1.42	-0.36	-1.00	1-6
Item 23	Secure	4.31	1.32	-0.30	-1.00	2-6
Item 24	Secure	4.91	1.72	-0.26	-0.89	1-7

Items	Classification	*M*	*SD*	Skewness	Kurtosis	Range
Item 25	Secure	4.37	1.59	-0.19	-0.75	1-7
Item 26	Secure	4.17	1.62	0.10	-0.43	1-7
Item 27	Secure	3.17	1.58	-0.11	-1.35	1-6
Item 28	Secure	3.66	2.00	-0.06	-1.28	1-7
Item 29	Secure	4.31	1.60	-0.37	-0.09	1-7
Item 30	Secure	4.17	1.27	-0.43	-0.31	1-6
Item 31	Secure	3.63	1.35	-0.63	-0.88	1-5
Item 32	Secure	4.37	1.54	-0.26	-0.16	1-7
Item 33	Secure	4.69	1.30	0.37	-0.94	3-7
Item 34	Secure	4.57	1.22	-0.33	-0.38	2-7
Item 35	Secure	4.23	1.55	-0.06	-0.09	1-7
Item 36	Secure	3.89	1.35	-0.55	-0.57	1-6
Item 37	Secure	4.83	1.64	-0.05	-1.17	2-7
Item 38	Secure	5.00	1.51	-0.27	-0.92	2-7
Item 39	Secure	4.43	1.84	-0.56	-0.42	1-7
Item 40	Secure	4.54	1.20	0.11	-0.33	2-7
Item 41	Dismissing	5.06	1.06	-0.12	-0.17	3-7
Item 42	Dismissing	2.46	0.82	2.03	3.89	2-5
Item 43	Dismissing	3.91	1.15	0.18	1.54	1-7
Item 44	Dismissing	3.71	0.93	-0.09	-0.85	2-5
Item 45	Dismissing	3.11	1.57	0.24	-1.17	1-6
Item 46	Dismissing	4.51	1.01	0.41	-0.25	3-7
Item 47	Dismissing	4.74	1.87	0.02	-1.71	2-7
Item 48	Dismissing	4.26	1.09	-0.12	0.14	2-7
Item 49	Dismissing	4.91	1.36	-0.36	-0.42	2-7
Item 50	Dismissing	4.29	1.43	0.30	0.13	1-7
Item 51	Dismissing	3.66	1.41	-0.21	-0.45	1-6
Item 52	Dismissing	4.03	1.07	-0.21	0.66	1-6
Item 53	Dismissing	3.26	1.42	0.69	0.04	1-7
Item 54	Dismissing	4.46	1.42	0.16	-0.93	2-7
Item 55	Dismissing	4.57	1.07	0.19	-0.61	3-7
Item 56	Dismissing	4.57	1.61	-0.23	-1.09	1-7
Item 57	Dismissing	4.60	1.65	0.19	-1.21	2-7
Item 58	Dismissing	4.66	0.94	-0.37	1.57	2-7

Items	Classification	*M*	*SD*	Skewness	Kurtosis	Range
Item 59	Dismissing	3.06	1.39	0.66	0.68	1-7
Item 60	Dismissing	4.14	1.65	-0.24	-0.63	1-7
Item 61	Preoccupied	3.29	1.76	0.46	-1.00	1-7
Item 62	Preoccupied	5.03	0.82	-0.39	1.30	3-7
Item 63	Preoccupied	4.03	1.01	-0.06	-0.53	2-6
Item 64	Preoccupied	3.66	0.87	0.19	-0.81	2-5
Item 65	Preoccupied	4.66	1.39	-0.10	-0.38	2-7
Item 66	Preoccupied	4.54	1.36	-0.28	-0.84	2-7
Item 67	Preoccupied	3.86	1.24	-0.01	0.43	1-7
Item 68	Preoccupied	4.69	0.80	0.27	-0.71	3-6
Item 69	Preoccupied	4.31	1.16	0.18	-0.03	2-7
Item 70	Preoccupied	4.37	0.94	0.28	-0.70	3-6
Item 71	Preoccupied	4.03	1.27	-0.06	-0.93	2-6
Item 72	Preoccupied	4.51	1.27	-0.45	0.92	1-7
Item 73	Preoccupied	4.83	0.98	-0.22	-1.07	3-6
Item 74	Preoccupied	4.29	1.25	0.47	-0.41	2-7
Item 75	Preoccupied	3.60	1.33	0.33	-0.63	1-6
Item 76	Preoccupied	3.94	1.11	0.53	0.84	2-7
Item 77	Preoccupied	4.14	1.14	0.59	0.93	2-7
Item 78	Preoccupied	5.03	0.86	-0.06	-0.10	3-7
Item 79	Preoccupied	4.60	0.85	-0.33	-0.33	3-6
Item 80	Preoccupied	4.34	1.11	0.22	-0.16	2-7

Interrater Reliability for CAQ Items

Two-way random ICC, single measures, were computed across the 35 cases between AT (gold standard) and the two raters, and between the two raters excluding AT. The ICCs ranged between .61 and .84, with a mean of .76 for the comparisons including AT, and between .46 to .85, with a mean of .69 for the comparisons excluding AT. This indicated an overall good agreement between item placement of each case across raters (please refer to Table A-17 for the ICCs for each case).

Table A-17. Intraclass Correlation Coefficients of 80 Items.

Case	Including Gold Standard (AT)	Excluding Gold Standard (AT)
1	.71	.58
2	.61	.46
3	.75	.67
4	.77	.67
5	.77	.70
6	.66	.58
7	.78	.71
8	.66	.62
9	.79	.72
10	.73	.63
11	.69	.59
12	.75	.65
13	.78	.72
14	.74	.74
15	.80	.73
16	.71	.63
17	.70	.57
18	.75	.65
19	.79	.73
20	.79	.74
21	.84	.82
22	.80	.74
23	.79	.75
24	.78	.76
25	.74	.62
26	.77	.73
27	.84	.85
28	.74	.62
29	.79	.69
30	.72	.69
31	.81	.75
32	.78	.72
33	.83	.81
34	.75	.67
35	.83	.79
Mean	.76	.69
Min	.61	.46
Max	.84	.85

Table A-18. Concordance between C5 CAQ and CAI Main Attachment Classifications (*N* =33).

	C5 CAQ classification				
CAI classification	Secure	Dismissing	Preoccupied	Disorganized	Total
Secure	15	1	2	0	18
Dismissing	0	8	3	1	12
Preoccupied	1	0	0	0	1
Disorganized	0	1	0	1	2
Total	16	10	5	2	33

Table A-19. Concordance between C6 CAQ and CAI Main Attachment Classifications (*N* =33).

	C6 CAQ classification				
CAI classification	Secure	Dismissing	Preoccupied	Disorganized	Total
Secure	16	1	1	0	18
Dismissing	0	8	3	1	12
Preoccupied	0	0	1	0	1
Disorganized	0	1	0	1	2
Total	16	10	5	2	33

Table A-20. Concordance between C5 CAQ and CAI Secondary Attachment Classifications (*N*= 33).

	C5 CAQ classification			
CAI classification	Secure	Dismissing	Preoccupied	Total
Secure	15	1	2	18
Dismissing	0	9	5	14
Preoccupied	1	0	0	1
Total	15	11	7	33

Table A-21. Concordance between C6 CAQ and CAI Secondary Attachment Classifications (*N*= 33).

	C6 CAQ classification			
CAI classification	Secure	Dismissing	Preoccupied	Total
Secure	16	1	1	18
Dismissing	0	9	5	14
Preoccupied	0	0	1	1
Total	16	10	7	33

Table A-22. Concordance between C5 CAQ and CAI Attachment Classifications (*N* = 33).

	C5 CAQ classification		
CAI classification	Secure	Insecure	Total
Secure	15	3	18
Insecure	1	14	15
Total	16	17	33

Table A-23. Concordance between C6 CAQ and CAI Attachment Classifications (N = 33).

	C6 CAQ classification		
CAI classification	Secure	Insecure	Total
Secure	16	2	18
Insecure	0	15	15
Total	16	17	33

Table A-24. Data Relating to Internal Consistency of AT CAQ Scales (N = 80).

CAQ scale	Cronbach's alpha	Item	Corrected item total correlation	Cronbach's alpha if item deleted
Disorganized	.86			
(n = 20)		Item 1	.12	.87
		Item 2	.62	.85
		Item 3	.64	.85
		Item 4	.11	.86
		Item 5	.48	.85
		Item 6	.63	.85
		Item 7	.25	.86
		Item 8	-.02	.87
		Item 9	.51	.85
		Item 10	.62	.85
		Item 11	.30	.86
		Item 12	.39	.86
		Item 13	.00	.87
		Item 14	.68	.84
		Item 15	.54	.85
		Item 16	.59	.85
		Item 17	.74	.84
		Item 18	.42	.86
		Item 19	.40	.86
		Item 20	.65	.85
Secure	.97			
(n = 20)		Item 21	.85	.97
		Item 22	.86	.97
		Item 23	.91	.97
		Item 24	.82	.97

		Item 25	.84	.97
		Item 26	.73	.97
		Item 27	.72	.97
		Item 28	.68	.97
		Item 29	.73	.97
		Item 30	.86	.97
		Item 31	.86	.97
		Item 32	.79	.97
		Item 33	.73	.97
		Item 34	.73	.97
		Item 35	.82	.97
		Item 36	.82	.97
		Item 37	.81	.97
		Item 38	.73	.97
		Item 39	.71	.97
		Item 40	.73	.97
Dismissing	.90			
(*n* = 20)		Item 41	.56	.90
		Item 42	.10	.91
		Item 43	.35	.90
		Item 44	.18	.91
		Item 45	.77	.89
		Item 46	.64	.90
		Item 47	.23	.91
		Item 48	.65	.90
		Item 49	.56	.90
		Item 50	.44	.90
		Item 51	.29	.91
		Item 52	.68	.90
		Item 53	.77	.89
		Item 54	.78	.89
		Item 55	.49	.90
		Item 56	.85	.89
		Item 57	.51	.90
		Item 58	.55	.90
		Item 59	.55	.90

		Item 60	.83	.89
Preoccupied	.77			
(*n* = 20)		Item 61	.45	.75
		Item 62	.65	.74
		Item 63	.38	.75
		Item 64	.37	.76
		Item 65	.11	.78
		Item 66	.75	.72
		Item 67	-.17	.79
		Item 68	.40	.76
		Item 69	.75	.73
		Item 70	.36	.76
		Item 71	.29	.76
		Item 72	.53	.74
		Item 73	.40	.75
		Item 74	.62	.73
		Item 75	-.08	.79
		Item 76	.53	.74
		Item 77	.64	.73
		Item 78	.35	.76
		Item 79	.00	.77
		Item 80	-.38	.80

A.4. Chapter 7

Table A-25. Differences in Demographic Variables for IQ.

Demographic variable	AT	Single rater
Four-way classification		
Age	F (3, 60) = 1.79, p = .159	F (3, 54) = 3.26, p = .028*
Gender	χ^2 (3, N = 61) = 9.25, p = .024*	χ^2 (3, N = 58) = 2.91, p = .439
SES	χ^2 (3, N = 60) = 1.07, p = .818	χ^2 (3, N = 55) = 2.23, p = .570
Ethnicity	χ^2 (6, N = 59) = 1.99, p = .955	χ^2 (6, N = 56) = 10.83 p = .087
Three-way classification		
Age	F (2, 60) = 1.69, p = .193	F (2,55) = 2.06, p = .137
Gender	χ^2 (2, N = 61) = 9.13, p = .011*	χ^2 (2, N = 58) = 2.08, p = .354
SES	χ^2 (2, N = 60) = 1.17, p = .612	χ^2 (2, N = 55) = 2.59, p = .304
Ethnicity	χ^2 (4, N = 59) = 2.04, p = .794	χ^2 (4, N = 56) = 0.23, p = .994
Two-way classification		
Age	t (59) = –0.69, p = .489	t (56) = –2.21, p = .031*
Gender	χ^2 (1, N = 61) = 1.96, p = .162	χ^2 (1, N = 58) = 2.65, p = .103
SES	χ^2 (1, N = 60) = 0.69, p = .407	χ^2 (1, N = 55) = 1.42, p = .234
Ethnicity	χ^2 (2, N = 59) = 3.64, p = .183	χ^2 (2, N = 56) = 4.06, p = .165

*p < .05.

Table A-26. Differences in Demographic Variables for Expressive Language.

Demographic variable	AT	Single rater
Four-way classification		
Age	F (3, 71) = 4.73, p = .005*	F (3, 46) = 3.13, p = .035*
Gender	χ^2 (3, N = 75) = 8.66, p = .032*	χ^2 (3, N = 50) = 4.03, p = .282
SES	χ^2 (3, N = 74) = 2.94, p = .422	χ^2 (3, N = 49) = 3.91, p = .285
Ethnicity	χ^2 (6, N = 74) = 4.04, p = .688	χ^2 (6, N = 49) = 9.13 p = .149
Three-way classification		
Age	F (2,72) = 1.45, p = .241	F (2,47) = 0.66, p = .519
Gender	χ^2 (2, N = 75) = 8.14, p = .014*	χ^2 (2, N = 50) = 3.03, p = .220
SES	χ^2 (2, N = 74) = 3.73, p = .184	χ^2 (2, N = 49) = 3.99, p = .152
Ethnicity	χ^2 (4, N = 74) = 4.01, p = .420	χ^2 (4, N = 49) = 3.66, p = .492
Two-way classification		
Age	t (73) = –1.67, p = .100	t (26.92) = –1.64, p = .114
Gender	χ^2 (1, N = 75) = 3.51, p = .061	χ^2 (1, N = 65) = 3.14, p = .077
SES	χ^2 (1, N = 74) = 1.56, p = .212	χ^2 (1, N = 63) = 2.34, p = .126
Ethnicity	χ^2 (2, N = 74) = 6.52, p = .031*	χ^2 (2, N = 63) = 6.76, p = .050

*p < .05.

Table A-27. Differences in Demographic Variables for Psychopathology.

Demographic variable	AT	Single rater
Four-way classification		
Age	F (3, 86) = 3.80, p = .013*	F (3, 57) = 2.84, p = .046*
Gender	χ^2 (3, N = 90) = 14.39, p = .002**	χ^2 (3, N = 61) = 9.56, p = .020
SES	χ^2 (3, N = 89) = 1.27, p = .743	χ^2 (3, N = 60) = 3.69, p = .334
Ethnicity	χ^2 (6, N = 87) = 4.08, p = .660	χ^2 (6, N = 59) = 7.52 p = .247

Three-way classification		
Age	F (2, 87) = 2.45, p = .092	F (2,58) = 2.07, p = .136
Gender	χ^2 (2, N = 90) = 14.44, p = .001**	χ^2 (2, N = 61) = 9.31, p = .010*
SES	χ^2 (2, N = 89) = 1.40, p = .497	χ^2 (2, N = 60) = 1.93, p = .444
Ethnicity	χ^2 (4, N = 87) = 3.09, p = .566	χ^2 (4, N = 59) = 2.56, p = .681
Two-way classification		
Age	t (88) = –1.77, p = .079	t (55.95) = –2.70, p = .009*
Gender	χ^2 (1, N = 90) = 4.57, p = .033*	χ^2 (1, N = 83) = 5.79, p = .016
SES	χ^2 (1, N = 89) = 1.32, p = .251	χ^2 (1, N = 80) = 2.75, p = .098
Ethnicity	χ^2 (2, N = 87) = 6.43, p = .041*	χ^2 (2, N = 80) = 5.72, exact p = .054

*p < .05. **p < .01.

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Table A-28. Average Rater's Four-Way Concordance between Children's CAQ Classifications and SAT Classifications (N = 19).

	SAT			Total
CAQ	Secure	Dismissing	Preoccupied	
Secure	6	4	0	10
Dismissing	1	4	1	6
Preoccupied	2	0	1	3
Total	9	8	2	19

Table A-29. First Single Rater's Three-Way Concordance between Children's CAQ Classifications and SAT Classifications (N = 35).

	SAT			Total
CAQ	Secure	Dismissing	Preoccupied	
Secure	17	6	1	24
Dismissing	1	5	1	7
Preoccupied	3	0	1	4
Total	21	11	3	35

Table A-30. Second Single Rater's Three-Way Concordance between Children's CAQ Classifications and SAT Classifications (N = 35).

	SAT			Total
CAQ	Secure	Dismissing	Preoccupied	
Secure	17	6	1	24
Dismissing	1	5	1	7
Preoccupied	3	0	1	4
Total	21	11	3	35

Table A-31. Average Rater's Two-Way Concordance between Children's CAQ Classifications and SAT Classifications (*N* = 19).

CAQ	SAT		Total
	Secure	Insecure	
Secure	8	5	13
Insecure	2	4	6
Total	10	9	19

Table A-32. Average Rater's Two-Way Concordance between Children's CAQ Classifications and SAT Classifications (*N* = 35).

CAQ	SAT		Total
	Secure	Insecure	
Secure	20	9	29
Insecure	2	4	6
Total	22	13	35

Table A-33. Average Rater's Two-Way Concordance between Children's CAQ Classifications and SAT Classifications (*N* = 35).

CAQ	SAT		Total
	Secure	Insecure	
Secure	21	9	30
Insecure	1	4	5
Total	22	13	35

Table A-34. Average Rater's Four-Way Concordance between Children's CAQ Classifications and Mothers' AAI Classifications (*N* = 43).

	AAI				
CAQ	Secure	Dismissing	Preoccupied	U/CC	Total
Secure	6	7	1	8	22
Dismissing	1	0	1	6	8
Preoccupied	1	3	2	2	8
Disorganized	0	0	1	4	5
Total	8	10	5	20	43

Table A-35. First Single Rater's Four-Way Concordance between Children's CAQ Classifications and Mothers' AAI Classifications (*N* = 57).

	AAI				
CAQ	Secure	Dismissing	Preoccupied	U/CC	Total
Secure	8	7	2	10	27
Dismissing	2	2	3	8	15
Preoccupied	0	3	2	4	9
Disorganized	0	0	1	5	6
Total	10	12	8	27	57

Table A-36. Second Single Rater's Four-Way Concordance between Children's CAQ Classifications and Mothers' AAI Classifications (N = 57).

	AAI				
CAQ	Secure	Dismissing	Preoccupied	U/CC	Total
Secure	7	7	2	10	26
Dismissing	2	2	3	8	15
Preoccupied	1	3	2	4	10
Disorganized	0	0	1	5	6
Total	10	12	8	27	57

In order to examine whether the four AAI groups were associated with different patterns of CAQ scores, two MANOVAs were conducted with cases coded by AT and the average rater, and three with cases coded by AT's ratings and two single raters. As shown in Table A-37 and Table A-38, none of the MANOVAs were significant indicating that the four CAQ scales behaved similarly when an AAI group was compared with the rest of the attachment groups (e.g., the AAI Secure group compared to the AAI non-Secure group).

With the aim of exploring specific relationships between the CAQ scales the four AAI attachment groups, point-biserial correlations were calculated between each CAQ scale and each AAI attachment group. Results for AT's and the average rater are shown in Table A-37, and results for AT's and single raters are shown in Table A-38.

As shown in Table A-37, the Secure, Preoccupied and the Unresolved/Cannot Classify categorization in the AAI presented a positive correlation with the Secure, Preoccupied and Disorganized CAQ scales and categorization for both AT and the average rater. These indicated that higher scores in the CAQ scales co-occurred with the corresponded attachment group (e.g. Secure parents tended to have children with higher scores in the Secure CAQ scale). Although these relationships were not statistically significant, the strength of the point-biserial correlation were amongst the strongest observed (ranging r_{pb} = .22 to .29). Only the AAI Dismissing category presented a negative correlation with its analogous CAQ scale (r_{pb} =-.16 to -.19 for AT and the average rater).

In addition, there was only one significant point-biserial correlation before applying Bonferroni correction, which was for the relation between the Secure AAI classification and the Preoccupied CAQ scale of the average rater. This correlation was negative (r_{pb} = -.31, p < .05), and indicated that Secure parents had children with lower scores in the Preoccupied CAQ scale compared to parents in the rest of the attachment classifications. Almost identical results were observed for AT.

Table A-37. Descriptive Statistics, MANOVAs, and Point-Biserial Correlations of the Comparison between Four-Way AAI Attachment Classification and the Four-Way CAQ Scales and Attachment Classification for AT and Average Rater.

	AAI Secure				
	Mean CAQ scores			Coefficients	
	AT Raw *M* (*SD*)		Average rater *M* (*SD*) (*n*=8)	AT r_{pb} (*n*=43)	Average rater r_{pb} (*n*=43)
CAQ Scales	AAI Secure (*n* = 8)	AAI non-Secure (*n*=35)			
Secure	4.83 (0.87)	4.21 (1.07)	4.95 (0.83)	.23	.26
Dismissing	4.19 (0.71)	4.03 (0.77)	4.22 (0.57)	.08	.04
Preoccupied	3.92 (0.49)	4.39 (0.61)	3.88 (0.48)	-.30	-.31*
Disorganized	3.06 (0.35)	3.37 (0.71)	2.96 (0.39)	-.18	-.19
Wilk's Lamda	*n* too small to calculate				

	AAI Dismissing				
	Mean CAQ scores			Coefficients	
	AT Raw *M* (*SD*)		Average rater *M* (*SD*) (*n*=10)	AT r_{pb} (*n*=43)	Average rater r_{pb} (*n*=43)
	AAI Dismissing (*n*=10)	AAI non-Dismissing (*n*=33)			
Secure	4.71 (0.74)	4.21 (1.11)	4.7 (0.69)	.20	.16
Dismissing	3.8 (0.63)	4.15 (0.78)	3.99 (0.38)	-.19	-.16
Preoccupied	4.44 (0.68)	4.26 (0.60)	4.33 (0.56)	.13	.12
Disorganized	3.06 (0.28)	3.39 (0.73)	2.99 (0.27)	-.22	-.19
Wilk's Lamda	0.84				
	AAI Preoccupied				
	Mean CAQ scores			Coefficients	
	AT Raw *M* (*SD*)		Average rater *M* (*SD*) (*n*=5)	AT r_{pb} (*n*=43)	Average rater r_{pb} (*n*=43)
	AAI Preoccupied (*n*=5)	AAI non-Preoccupied (*n*=38)			
Secure	3.66 (1.34)	4.41 (1.00)	3.84 (1.21)	-.23	-.21
Dismissing	3.99 (0.69)	4.08 (0.77)	4.12 (0.47)	-.04	-.03
Preoccupied	4.79 (0.71)	4.23 (0.58)	4.57 (0.56)	.29	.25
Disorganized	3.56 (1.02)	3.28 (0.61)	3.47 (0.95)	.14	.13
Wilk's Lamda	*n* too small to calculate				
	AAI U/CC				
	Mean CAQ scores			Coefficients	
	AT Raw *M* (*SD*)		Average rater *M* (*SD*) (*n*=20)	AT r_{pb} (*n*=43)	Average rater r_{pb} (*n*=43)
	AAI U/CC (*n*=20)	AAI non-U/CC (*n*=23)			
Secure	4.1 (1.09)	4.52 (1.00)	4.19 (1.07)	-.20	-.21
Dismissing	4.17 (0.85)	3.98 (0.66)	4.25 (0.77)	.13	.12
Preoccupied	4.26 (0.53)	4.33 (0.69)	4.2 (0.46)	-.06	-.02
Disorganized	3.48 (0.75)	3.17 (0.55)	3.38 (0.81)	.24	.22
Wilk's Lamda	0.92				

* $p < .05$.

Results regarding the single raters analyses are displayed in Table A-38. They showed that all the significant correlations failed to be significant after applying Bonferroni correction. However, those correlations will be reported below as they indicate a tendency worth noticing.

There was a negative correlation between the Secure AAI classification and the Preoccupied CAQ scale that was stronger in SR2 (r_{pb} = -.30, $p < .05$), and a positive relationship between the Preoccupied AAI category of the parent and the Preoccupied CAQ scale of the child that was stronger for AT (r_{pb} = .25, p = .047). This indicated that parents with Secure attachment tended to have children with lower scores in the Preoccupied CAQ scale, and that parents with Preoccupied attachment tended to have children with higher scores in the Preoccupied CAQ scale.

Table A-38. Descriptive Statistics, MANOVAs, and Point-Biserial Correlations of the Comparison between Four-Way AAI Attachment Classification and the Four-Way CAQ Scales and Attachment Classification for AT and Single Raters (SR1 and SR2).

	AAI Secure							
	Mean CAQ scores				Coefficients			
	AT Raw *M* (*SD*)		SR1	SR2	AT	SR1	SR2	SR1-SR2
CAQ	AAI Secure (*n*=12)	AAI non-Secure (*n*=50)	*M* (*SD*) (*n*=10)	*M* (*SD*) (*n*=10)	r_{pb} (*n*=62)	r_{pb} (*n*=57)	r_{pb} (*n*=57)	*M* r_{pb}
Secure	4.89 (0.83)	4.29 (1.06)	4.80 (0.98)	4.69 (1.00)	.23	.20	.18	.19
Dismissing	4.16 (0.72)	4.18 (0.80)	4.38 (0.59)	4.24 (0.60)	-.01	.08	-.01	.04
Preoccupied	3.98 (0.44)	4.28 (0.56)	3.96 (0.41)	3.9 (0.53)	-.22	-.23	-.30*	-.27
Disorganized	2.96 (0.34)	3.25 (0.63)	2.87 (0.50)	3.18 (0.57)	-.20	-.21	-.04	-.13
Wilk's Lamda	0.89							
	AAI Dismissing							
	Mean CAQ scores				Coefficients			
	AT Raw *M* (*SD*)		SR1	SR2	AT	SR1	SR2	SR1-SR2
CAQ	AAI Dismissing (*n*=11)	AAI non-Dismissing (*n*=51)	*M* (*SD*) (*n*=12)	*M* (*SD*) (*n*=12)	r_{pb} (*n*=62)	r_{pb} (*n*=57)	r_{pb} (*n*=57)	*M* r_{pb}
Secure	4.57 (0.83)	4.37 (1.09)	4.5 (0.94)	4.37 (0.91)	.07	.08	.05	.07
Dismissing	3.96 (0.80)	4.22 (0.78)	4.19 (0.67)	4.24 (0.64)	-.13	-.05	-.01	-.03
Preoccupied	4.38 (0.67)	4.19 (0.52)	4.25 (0.60)	4.31 (0.47)	.14	.03	.06	.05
Disorganized	3.09 (0.29)	3.21 (0.64)	3.07 (0.35)	3.08 (0.43)	-.09	-.09	-.11	-.10
Wilk's Lamda	0.88							

* $p < .05$.

Continuation Table A-38. Descriptive Statistics, MANOVAs, and Point-Biserial Correlations of the Comparison between Four-Way AAI Attachment Classification and the Four-Way CAQ Scales and Attachment Classification for AT and Single Raters (SR1 and SR2).

	AAI Preoccupied							
	Mean CAQ scores				Coefficients			
	AT Raw *M* (*SD*)		SR1	SR2	AT	SR1	SR2	SR1-SR2
CAQ	AAI Preoccupied (*n*=7)	AAI non-Preoccupied (*n*=55)	*M* (*SD*) (*n*=8)	*M* (*SD*) (*n*=8)	r_{pb} (*n*=62)	r_{pb} (*n*=57)	r_{pb} (*n*=57)	*M* r_{pb}
Secure	3.87 (1.14)	4.48 (1.02)	4.08 (1.10)	4.07 (1.14)	-.19	-.10	-.08	-.09
Dismissing	4.15 (0.62)	4.18 (0.80)	4.29 (0.49)	4.35 (0.54)	-.01	.02	.06	.04
Preoccupied	4.61 (0.66)	4.17 (0.52)	4.47 (0.54)	4.39 (0.49)	.25*	.19	.11	.15
Disorganized	3.37 (0.89)	3.17 (0.55)	3.16 (0.88)	3.18 (0.84)	.11	-.02	-.03	-.03
Wilk's Lamda	*n* too small to calculate							
	AAI U/CC							
	Mean CAQ scores				Coefficients			
	AT Raw *M* (*SD*)		SR1	SR2	AT	SR1	SR2	SR1-SR2
CAQ	AAI U/CC (*n*=32)	AAI non-U/CC (*n*=30)	*M* (*SD*) (*n*=27)	*M* (*SD*) (*n*=27)	r_{pb} (*n*=62)	r_{pb} (*n*=57)	r_{pb} (*n*=57)	*M* r_{pb}
Secure	4.29 (1.11)	4.54 (0.96)	4.16 (1.14)	4.14 (1.11)	-.12	-.16	-.12	-.14
Dismissing	4.25 (0.84)	4.09 (0.71)	4.24 (0.77)	4.22 (0.81)	.11	-.03	-.04	-.04
Preoccupied	4.17 (0.47)	4.28 (0.62)	4.23 (0.55)	4.31 (0.56)	-.09	.02	.10	.06
Disorganized	3.28 (0.66)	3.11 (0.51)	3.39 (0.86)	3.34 (0.84)	.15	.25	.14	.20
Wilk's Lamda	0.95							

* $p < .05$.

Table A-39. Average Rater's Three-Way Concordance between Children's CAQ Classifications and Mothers' AAI Classifications (*N* = 43).

	AAI			Total
CAQ	Secure	Dismissing	Preoccupied	
Secure	11	9	2	22
Dismissing	5	1	5	11
Preoccupied	2	3	5	10
Total	18	13	12	43

Table A-40. First Single Rater's Three-Way Concordance between Children's CAQ Classifications and Mothers' AAI Classifications (*N* = 57).

	AAI			Total
CAQ	Secure	Dismissing	Preoccupied	
Secure	14	9	4	27
Dismissing	6	4	9	19
Preoccupied	1	3	7	11
Total	21	16	20	57

Table A-41. Second Single Rater's Three-Way Concordance between Children's CAQ Classifications and Mothers' AAI Classifications (*N* = 57).

	AAI			Total
CAQ	Secure	Dismissing	Preoccupied	
Secure	13	9	4	26
Dismissing	6	4	9	19
Preoccupied	2	3	7	12
Total	21	16	20	57

In order to assess whether the three AAI groups were associated with different patterns of CAQ scores, three MANOVAs were conducted. As shown in Table A-42, only the MANOVA for the AAI Preoccupied classification presented significant results (F (3,39) = 3.97, p = .015, Wilks' Λ = 0.77, partial η^2 = .23). This significance was maintained after applying Bonferroni correction (the p value was lower than .02). Specifically, the MANOVA showed that Preoccupied mothers had children with a significantly higher mean score in the Preoccupied CAQ scale compared to non-Preoccupied mothers (F (1,41) = 4.60, p = .038, partial η^2 = .10), and that Preoccupied mothers had children with a significantly lower mean in their children's Secure scale compared to non-Preoccupied mothers (F (1,41) = 8.19, p = .007, partial η^2 = .17).

Regarding the relationships between the CAQ scales and the three AAI attachment groups, point-biserial correlations indicated that the Preoccupied AAI group had a positive and significant correlation with the Preoccupied CAQ scale using AT's ratings (r_{pb} = .32, p = .04). However, this correlation failed to be significant after applying the Bonferroni correction to the p value (see Table A-42). In addition, there was a significant and negative relationship between the Preoccupied AAI group and the Secure CAQ category in both AT and the average rater's ratings (AT: r_{pb} = -.41, p = .007; Average rater: r_{pb} = -.35, p = .02). This moderate to strong relationship indicated that parents with Preoccupied attachment had children with lower scores in the Secure CAQ scale and it was maintained for AT's ratings after Bonferroni correction.

Table A-42. Descriptive Statistics, MANOVAs, and Point-Biserial Correlations of the Comparison between Three-Way AAI Attachment Classification and the Three-Way CAQ Scales and Attachment Classification for AT and Average Rater.

	AAI Secure				
	Mean CAQ scores			Coefficients	
	AT Raw *M* (*SD*)		Average rater *M* (*SD*) (*n*=18)	AT r_{pb} (*n*=43)	Average rater r_{pb} (*n*=43)
CAQ Scales	AAI Secure (*n*=18)	AAI non-Secure (*n*=25)			
Secure	4.51 (0.96)	4.19 (1.11)	4.58 (0.91)	.15	.15
Dismissing	4.17 (0.81)	3.99 (0.71)	4.23 (0.74)	.12	.09
Preoccupied	4.11(0.51)	4.43 (0.66)	4.06 (0.51)	-.26	-.26
Wilk's Lamda	0.91				
	AAI Dismissing				
	Mean CAQ scores			Coefficients	
	AT Raw *M* (*SD*)		Average rater *M* (*SD*) (*n*=13)	AT r_{pb} (*n*=43)	Average rater r_{pb} (*n*=43)
	AAI Dismissing (*n*=13)	AAI non-Dismissing (*n*=30)			
Secure	4.7 (0.93)	4.16 (1.07)	4.69 (0.93)	.24	.19
Dismissing	3.85 (0.63)	4.16 (0.79)	4.00 (0.42)	-.19	-.18
Preoccupied	4.27 (0.68)	4.31 (0.60)	4.23 (0.53)	-.03	.02
Wilk's Lamda	0.93				
	AAI Preoccupied				
	Mean CAQ scores			Coefficients	
	AT Raw *M* (*SD*)		Average rater *M* (*SD*) (*n*=12)	AT r_{pb} (*n*=43)	Average rater r_{pb} (*n*=43)
	AAI Preoccupied (*n*=12)	AAI non-Preoccupied (*n*=31)			
Secure	3.64 (1.06)**	4.59 (0.94)	3.84(1.08)	-.41**	-.35*
Dismissing	4.15 (0.79)	4.03 (0.74)	4.25(0.62)	.07	.09
Preoccupied	4.61 (0.62)*	4.17 (0.58)	4.43(0.49)	.32*	.27
Wilk's Lamda	0.77*				

* $p < .05$. ** $p < .01$. *** $p < .001$.

In relation to the second group of analyses using the scores of AT and single raters, results showed that the CAQ scales had similar means between the AAI attachment groups (as evidenced by the three non-significant MANOVAs). In addition, point-biserial correlations indicated the same pattern of results for the Preoccupied AAI group as in the analyses with the previous analysis AT and the average rater. Specifically, as shown in Table A-43, the Preoccupied AAI group had a positive and significant relationship with the Preoccupied CAQ scale in SR1's ratings (r_{pb} = .29, p = .028). However, it failed to be significant after applying the Bonferroni correction to the p value. Furthermore, evidence showed the same moderate negative relationship between the Preoccupied AAI group and the Secure CAQ category in AT (r_{pb} = -.30, p = .017), which failed to be significant after Bonferroni correction.

Table A-43. Descriptive Statistics, MANOVAs, and Point-Biserial Correlations of the Comparison between Three-Way AAI Attachment Classification and the Three-Way CAQ Scales and Attachment Classification for AT and Single Raters (SR1 and SR2).

	AAI Secure							
	Mean CAQ scores				Coefficients			
	AT Raw *M* (*SD*)		SR1	SR2	AT	SR1	SR2	SR1-SR2
CAQ	AAI Secure (*n*=25)	AAI non-Secure (*n*=37)	*M* (*SD*) (*n*=21)	*M* (*SD*) (*n*=21)	r_{pb} (*n*=62)	r_{pb} (*n*=57)	r_{pb} (*n*=57)	*M* r_{pb}
Secure	4.73 (0.95)	4.19 (1.06)	4.56 (0.98)	4.56 (0.94)	.26*	.17	.21	.19
Dismissing	4.08 (0.78)	4.24 (0.79)	4.26 (0.75)	4.2 (0.74)	-.09	.00	-.05	-.03
Preoccupied	4.10 (0.44)	4.31 (0.60)	4.07 (0.45)	4.08 (0.53)	-.19	-.21	-.24	-.23
Wilk's Lamda	0.91							

	AAI Dismissing							
	Mean CAQ scores				Coefficients			
	AT Raw *M* (*SD*)		SR1	SR2	AT	SR1	SR2	SR1-SR2
CAQ	AAI Dismissing (*n*=17)	AAI non-Dismissing (*n*=45)	*M* (*SD*) (*n*=16)	*M* (*SD*) (*n*=16)	r_{pb} (*n*=62)	r_{pb} (*n*=57)	r_{pb} (*n*=57)	*M* r_{pb}
Secure	4.47 (1.03)	4.39 (1.06)	4.42 (1.16)	4.28 (1.13)	.04	.05	.00	.03
Dismissing	4.13 (0.80)	4.19 (0.78)	4.27 (0.69)	4.26 (0.70)	-.04	.01	.01	.01
Preoccupied	4.21 (0.62)	4.23 (0.52)	4.15 (0.55)	4.24 (0.42)	-.01	-.08	-.01	-.05
Wilk's Lamda	0.99							

Continuation Table A-43. Descriptive Statistics, MANOVAs, and Point-Biserial Correlations of the Comparison between Three-Way AAI Attachment Classification and the Three-Way CAQ Scales and Attachment Classification for AT and Single Raters (SR1 and SR2).

	AAI Preoccupied							
	Mean CAQ scores				Coefficients			
	AT Raw *M* (*SD*)							
CAQ	AAI Preoccupied (*n*=20)	AAI non-Preoccupied (*n*=42)	SR1 *M* (*SD*) (*n*=20)	SR2 *M* (*SD*) (*n*=20)	AT r_{pb} (*n*=62)	SR1 r_{pb} (*n*=57)	SR2 r_{pb} (*n*=57)	SR1-SR2 *M* r_{pb}
Secure	3.96 (1.05)	4.63 (0.98)	4.02 (1.07)	3.97 (1.06)	-.30*	-.22	-.22	-.22
Dismissing	4.33 (0.78)	4.10 (0.78)	4.25 (0.61)	4.29 (0.67)	.14	-.01	.04	.02
Preoccupied	4.39 (0.58)	4.15 (0.52)	4.43 (0.59)	4.43 (0.58)	.21	.29*	.24	.27
Wilk's Lamda		0.88						

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table A-44. Average Rater's Two-Way Concordance between Children's CAQ Classifications and Mothers' AAI Classifications (N = 43).

CAQ	AAI		Total
	Secure	Insecure	
Secure	13	16	29
Insecure	5	9	14
Total	18	25	43

Table A-45. Average Rater's Two-Way Concordance between Children's CAQ Classifications and Mothers' AAI Classifications (N = 57).

CAQ	AAI		Total
	Secure	Insecure	
Secure	15	22	37
Insecure	6	14	20
Total	21	36	57

Table A-46. Average Rater's Two-Way Concordance between Children's CAQ Classifications and Mothers' AAI Classifications (N = 57).

CAQ	AAI		Total
	Secure	Insecure	
Secure	14	21	35
Insecure	7	15	22
Total	21	36	57

Table A-47. Descriptive Statistics, MANOVAs, and Point-Biserial Correlations, of the Comparison between Two-Way AAI Attachment Classification and the Two-Way CAQ Scales and Attachment Classification for AT and Average Rater.

	AAI				
	Mean CAQ scores			Coefficients	
	AT Raw M (SD)		Average rater		
CAQ	AAI Secure (n=18)	AAI Insecure (n=25)	Secure M (SD) (n=18)	AT r_{pb} (n=43)	Average rater r_{pb} (n=43)
Secure	4.51(0.96)	4.19(1.11)	4.58(0.91)	.15	.15
Insecure	3.83(0.32)	3.94(0.37)	3.8(0.30)	-.15	-.16
Wilk's Lamda	0.96				

Note. AAI Secure = 1; AAI Insecure = 0.

In reference to the analyses of AT and the average rater in the two-way CAQ and AAI comparison, results showed neither significant differences between the mean scores of the CAQ scales in the AAI groups of mothers, nor significant differences in the point-biserial correlation. However, the direction of the relationships were as expected with the Secure CAQ scale presenting a positive relationship with the Secure AAI group, and the Insecure CAQ scale presenting a negative relationship with the Secure AAI group. Tables detailing these results can be found in Table A-47. When the comparisons of CAQ and

AAI were conducted for AT and the single raters, results presented the same direction of the relationships and non-significance as the analyses with AT and the average rater. However, before Bonferroni correction results were significant for AT. Tables detailing these results can be found in Table A-48.

Table A-48. Descriptive Statistics, MANOVAs, and Point-Biserial Correlations of the Comparison between Two-Way AAI Attachment Classification and the Two-Way CAQ Scales and Attachment Classification for AT and Single Raters (R1 and R2).

	AAI							
	Mean CAQ scores				Coefficients			
	AT Raw *M* (*SD*)		R1	R2	AT	R1	R2	R1-R2
CAQ	AAI Secure (*n*=25)	AAI Insecure (*n*=37)	*M* (*SD*) (*n*=27)	*M* (*SD*) (*n*=27)	r_{pb} (*n*=62)	r_{pb} (*n*=57)	r_{pb} (*n*=57)	*M* r_{pb}
Secure	4.73(0.95)	4.19(1.06)	4.56(0.98)	4.56(0.94)	.26*	.17	.21	.19
Insecure	3.76(0.32)	3.94(0.35)	3.81(0.33)	3.81(0.31)	-.26*	-.18	-.21	-.20
Wilk's Lamda	0.92							

Note. AAI Secure = 1; AAI Insecure = 0.

Table A-49. Average Rater's Four-Way Concordance between Children's CAQ and MCAST Classifications (*N* = 25).

	MCAST				
CAQ	Secure	Dismissing	Preoccupied	Disorganized	Total
Secure	15	0	0	4	19
Dismissing	3	1	0	1	5
Preoccupied	0	0	0	0	0
Disorganized	0	0	0	1	1
Total	18	1	0	6	25

Table A-50. First Single Rater's Four-Way Concordance between Children's CAQ and MCAST Classifications (*N* = 25).

	MCAST				
CAQ	Secure	Dismissing	Preoccupied	Disorganized	Total
Secure	15	0	0	4	19
Dismissing	3	1	0	1	5
Preoccupied	0	0	0	0	0
Disorganized	0	0	0	1	1
Total	18	1	0	6	25

Table A-51. Second Single Rater's Four-Way Concordance between Children's CAQ and MCAST Classifications (N = 25).

	MCAST				
CAQ	Secure	Dismissing	Preoccupied	Disorganized	Total
Secure	17	0	0	4	21
Dismissing	1	1	0	1	3
Preoccupied	0	0	0	0	0
Disorganized	0	0	0	1	1
Total	18	1	0	6	25

Table A-52. Average Rater's Four-Way Concordance between Children's CAQ and MCAST Classifications (N = 25).

	MCAST			Total
CAQ	Secure	Dismissing	Preoccupied	
Secure	17	0	2	19
Dismissing	3	1	1	5
Preoccupied	0	1	0	1
Total	20	2	3	25

Table A-53. First Single Rater's Three-Way Concordance between Children's CAQ and MCAST Classifications (N = 25).

	MCAST			Total
CAQ	Secure	Dismissing	Preoccupied	
Secure	19	0	2	21
Dismissing	1	1	1	3
Preoccupied	0	1	0	1
Total	20	2	3	25

Table A-54. Second Single Rater's Three-Way Concordance between Children's CAQ and MCAST Classifications (N = 25).

	MCAST			Total
CAQ	Secure	Dismissing	Preoccupied	
Secure	17	0	2	19
Dismissing	3	1	1	5
Preoccupied	0	1	0	1
Total	20	2	3	25

Table A-55. Average Rater's Two-Way Concordance between Children's CAQ and MCAST Classifications (N = 25).

CAQ	MCAST		Total
	Secure	Insecure	
Secure	20	2	22
Insecure	0	3	3
Total	20	5	25

Table A-56. First Single Rater's Two-Way Concordance between Children's CAQ and MCAST Classifications (N = 25).

CAQ	MCAST		Total
	Secure	Insecure	
Secure	20	2	22
Insecure	0	3	3
Total	20	5	25

Table A-57. Second Single Rater's Two-Way Concordance between Children's CAQ and MCAST Classifications (N = 25).

CAQ	MCAST		Total
	Secure	Insecure	
Secure	19	2	21
Insecure	1	3	4
Total	20	5	25

Table A-58. Samples Used Across Studies and Degree of Overlap.

	Chapter 4		Chapter 5	Chapter 6	
	Pilot 1	**Pilot 2**		**Group A**	**Group B**
Sub-sample 1	31 cases larger AFC sample	2 cases larger AFC sample	11 cases Ch. 4-Pilot 1	23 cases larger AFC sample	35 cases larger AFC sample
Sub-sample 2	N/A	N/A	2 cases Ch. 4-Pilot 2	11 cases Ch. 4-Pilot 1 (Ch. 5 sub-sample 1)	N/A
Sub-sample 3	N/A	N/A	N/A	N/A	N/A
Sub-sample 4	N/A	N/A	N/A	N/A	N/A
Total *N*	**31**	**2**	**11**	**34**	**35**

	Chapter 7		
	Intelligence	**Expressive Language**	**Psychopathology**
Sub-sample 1	32 cases Ch. 6 - Group A	6 cases Ch. 6 - Group A	32 cases Ch. 6 - Group A
Sub-sample 2	29 cases Ch. 6 - Group B	33 cases Ch. 6 - Group B	33 cases Ch. 6 - Group B
Sub-sample 3	23 cases validity sample*	51 cases validity sample	47 cases validity sample
Sub-sample 4	N/A	N/A	N/A
Total *N*	**84**	**90**	**112**

	Chapter 8		
	Concurrent CAQ and SAT	**Predictive CAQ and AAI**	**Stability CAQ and MCAST**
Sub-sample 1	10 cases Ch. 6 - Group A	24 cases Ch. 6 - Group A	19 cases Ch. 6 - Group A
Sub-sample 2	9 cases Ch. 6 - Group B	19 cases Ch. 6 - Group B	6 cases Ch. 6 - Group B
Sub-sample 3	25 cases validity sample	33 cases validity sample	N/A
Sub-sample 4	22 new cases AFC larger sample	N/A	N/A
Total *N*	**66**	**76**	**25**

Note. N/A = Not applicable. * Validity sample: a sample of 76 CAI videos (37 clinical and 39 non-clinical children from the larger AFC dataset recruited from referrals to three London specialist child mental health clinics and three schools in London, respectively) were coded by AT, Coder 5, and Coder 6 (two postgraduate psychology students). The validity studies will use various subsamples drawn from this sample of coded cases.

Table A-59. Summary of Differences between AT and Naïve Raters.

Studies	**4-way**				**3-way**				**2-way**			
Chapter 7 - Discriminant Validity (Parametric and nonparametric group comparisons)	AT	SR			AT	SR			AT	SR		
Intelligence	n.s.				n.s.				n.s.			
Expressive Language	n.s.				n.s.	sig.			n.s.			
Psychopathology	n.s.	sig.			n.s.	sig.			sig.			
Chapter 8 - Concurrent and Predictive Validity (kappa)	AT	SR1	SR2	Mean Rater	AT	SR1	SR2	Mean Rater	AT	SR1	SR2	Mean Rater
CAQ & SAT	N/A				reasonable				fair			
CAQ & AAI	very low				very low				very low			
CAQ & MCAST	reasonable				reasonable				high	high	moderate	high
Chapter 8 - Concurrent and Predictive Validity (point-biserial correlations)	AT	SR1	SR2	Mean Rater	AT	SR1	SR2	Mean Rater	AT	SR1	SR2	Mean Rater
CAQ & SAT	consistent results across raters				consistent results across raters				consistent results across raters			
CAQ & AAI	N/A				N/A				N/A			
CAQ & MCAST	consistent results across raters				consistent results across raters				consistent results across raters			

Note. n.s. = not significant. sig. = significant.

Table A-60. Summary of Overall Findings.

Objective	Statistic used and result	Interpretation	Conclusion
CAQ Reliability			
Classification	Kappa		Findings offer support that non-attachment experts can use the CAQ to code and classify attachment reliably.
Primary	.85 - 1.00	Excellent	
Secondary Classification	.90 - 1.00	Excellent	
Scales	Cronbach's alpha		
Secure	.87-.97	High	
Dismissing	.80-.90	High	
Preoccupied	.77-.89	Acceptable to high	
Disorganized	.85-.96	High	
CAQ Validity			
Construct Validity	Kappa		Findings indicate good agreement between primary and secondary classification of CAQ and CAI between AT and 6 non-attachment experts; Offering support for CAQ providing a platform for classifying attachment using attachment interviews (CAI).
Agreement Primary Classification CAI	.75-.81	Good	
Agreement Secondary Classification CAI	.64-.80	Good	
Discriminant Validity	Parametric and nonparametric analyses		Findings offer support that in relation to intelligence and expressive language, attachment emerges as a separate construct. For symptomatology, the CAQ demonstrated validity, but further research is needed with more clinical samples.
Intelligence	Not significant	No difference	
Expressive Language	Mostly not-significant	No difference	
Symptomatology (AT results)	Not significant	No difference	
Concurrent Validity	Kappa		Findings offer some evidence, but it is still difficult to assess properly as a well validated attachment instrument is not available.
CAQ and SAT (three-way and two-way classification)	.24-.34	Fair	
Predictive Validity	Kappa		
CAQ and AAI	.05-.19	Very low	Findings offered weak support, further research is needed.

Stability	Kappa		
CAQ and MCAST (two-way classification)	.60-.71	Good	Findings offered support for robustness of attachment category.

Appendix B: CAQ Manual Development

B.1. Child Attachment Q-Sort (CAQ)

In the Q-set:

items 1-20 are supposed to be Disorganized

items 21-40 are supposed to be Secure

items 41-60 are supposed to be Dismissing, and

items 61-80 are supposed to be Preoccupied

1	appears frightened of the interview situation: child is cautious, careful, wary in his/her approach to the interview and interviewer; shows signs of modest distress that are not specifically linked to a topic in the interview;
2	bizarre facial expressions, grimaces, unrelated to context of interview: child exhibits shows silly, distorted, or unusual facial expressions (i.e. it is more important that the face is silly or unusual and "put on" that what the actual facial expression is) in a way that is apparently out of context
3	Child manages to unnerve or derail the interviewer: interviewer loses track of interview (e.g. skips section or repeats question or forgets important information child has provided), and discusses off-task topics (other than brief rapport-maintaining comments); interviewer shows moments of being confused or lost in terms of where s/he is in the interview; interviewer may appear upset or frustrated or is forced ‘to set limits’ for the child
4	child “zones out” during interview (trance-like): child looks very flat and then 'snaps back' into attention; loses concentration not attributable to hyperactive behavior or silly behavior that interrupts interview; child seems confused, absorbed elsewhere
5	child makes contradictory statements that are impossible to reconcile; either unaware of the contradiction in what s/he said, suggesting lack of self-monitoring, or has no interest in clarifying them, e.g. child states that she is with mother all the time but also that she is away and they only meet some weekends
6	grossly immature acts (e.g., silly to camera, making faces, acting goofy): making faces to the camera without regard to what kind of faces are being made; 'goofy' behavior is defined as hyperaroused, silly, uncontained affect, over-exuberance
7	psychologically confused statements than cannot be true about internal states of others: attribution for another's behavior is not possible, wildly distorted or extremely unlikely based on the circumstances or how individuals generally respond and think, or the knowledge available to the child; attribution might involve magical thinking, e.g. child mysteriously "knows" or "understands" somebody's state of mind with no contact

8	overly concrete thinking : child may repeatedly miss the point of a question about thoughts or feelings, be too literal in his/her interpretation of what the interview said or what the interviewer is getting at; 'theory of mind failure', for example "anybody close to you" is assumed to mean physically close
9	inconsistent engagement with interviewer: there are dramatic variations in the child's relation to the interviewer, so behavior toward interview(er) is not predictable, e.g. child swings between extremely friendly, intrusive behavior and remote, bored attitude
10	distracted by external factors (e.g., crisp packets), non-contextual behavior: child crumples food bags, plays with pens and other objects around him/her; to be scored highly the behavior must be pervasive and disruptive to the interview
11	incongruent examples: examples of adjectives (whether or not in response to the adjective question) are entirely inconsistent with the intended characteristic being described, either because they contradict the characteristic being described or do not relate in any even indirect way to the characteristic being described, e.g. the relationship with Mom is loving because she lets me sit on her lap and smoke her cigarettes. This does not include weak, unconvincing or idealizing examples
12	incoherent stories, narratives that do not make sense: it is extremely hard to follow what the child is saying; even 'filling in the gaps' leaves gross incongruities and oddities and inconsistencies; or there is a rambling quality to the story which never gets anywhere
13	child becomes overwhelmed by sadness or fear related to previous upsetting events, even though affect may be appropriate it is extreme and not containable for the child, e.g. child cries a great deal when describing separation from or death of attachment figure which are not recent events
14	child seems not to adopt and/or maintain the interviewer-interviewee context or norms of interviewer-interviewee roles; child may break out of interview mode to ask questions off task, e.g. personal or unrelated to the interview
15	seeks physical contact with interviewer, moves toward interviewer: in the course of the interview the child makes physical contact with the interviewer or interviewer's objects (pens, handbag, etc.); or the child moves closely to the interviewer so as to be invading his/her personal space
16	child tries to set agenda, willfully controlling pace or content of interview; treats the adult interviewer as if the child were the expert and the interviewer were the student
17	hyperaroused/agitated: general affect and engagement in the interview is 'hyper', agitated; child may keep moving about, fiddling with objects
18	shows scorn/contempt for interviewer (acts as if interviewer is stupid): child answers in a way that s/he expected the interviewer to know already, or acts as it the interview question is silly or stupid or irrelevant;

19	unable to elaborate on questions that tap mental states; is “at sea” re: mental states (self and other): loses track of interview and doesn't get the point of the interviewer's questions about the "why" questions concerning mental states; child may seem lost, out of his depth
20	emotional states are not well modulated; there is turning “on and off” of affect or swinging to relative extremes: child shows both extreme bubbly/hyper/manic behavior as well as flat affect; the changes in affect are not gradual but as if by a switch (and can therefore come across as fake and ingenuine)
21	Open and convincing discussion of a range of feelings: the interview covers a range of feelings and the child is able to relate to all part of the interview; good and bad events and feelings are mentioned and the child is open to reporting events of a range of affects, not just neutral or positive or negative
22	examples supporting adjectives and of caregiving are recalled quickly, without protracted search or prevarication
23	conversational style is fluid and “goes somewhere”: conversation is back and forth, reciprocal, mutual, and there is an exchange of information;
24	child seems reflective and thoughtful: child takes the task seriously and tries hard to think of why behaviors and feelings occur; child is eager to help the interviewer understand his/her point of view
25	child appears engaged and interested in his/her memories of relationship episodes: child takes time to think back to events that happened
26	Child verbalizes deep affection for parents: child expresses very positive feelings about parents and shows unequivocal love for them;
27	Shows immediate pleasure when asked to think about parents: immediate and clear smile on face when asked to think of examples to describe relationships with mother and father
28	Clear evidence of going to parent for emotional help/guidance/support, a specific example is given in which child was upset and sought comfort from parent
29	affect is appropriate to what is being described: regardless of what the content is (i.e. good or bad), the child's affect is neither too flat nor over-exuberant
30	the child understands what is being asked for : child readily appreciates what the interview is about and understands the interviewer's focus on the emotional relationship and feelings and thoughts associated with it; there is a 'shared attention' in the interview; child is collaborative with interviewer; fills in gaps to provide explanation but does not overdo this
31	the child readily comes up with examples: the child is able to tap into a rich store of memories from which to choose vivid examples, examples concern emotionally salient experiences, they appear meaningful - neither bland nor trivial

32	child seems interested in the task in their non-verbal behavior, e.g. makes and keeps eye contact, orientates body towards interviewer, gestures are related to narrative
33	parents are described in believably mixed terms, some good, some bad aspects
34	able to take another's perspective: child readily refers to how others think and feel in the course of the interview; this understanding helps the child to describe and explain events in a coherent way
35	Values accuracy: honesty in reporting relationship experiences: child works very hard to think of what it was that actually happened in the past; the child is keen to get the interviewer to be able to 'see' what happened and get a sense of what it was like; child does not make short cuts in describing and does not seem to skip over details
36	For each question, child pursues "story line" with confidence and determination (narrative is shaped by overall affective theme which makes the narrative interesting and engaging to the listener)
37	can describe negative emotional experiences with relative clarity (sufficient detail but also succinct); even very difficult interactions or patterns can be discussed with interest and in a convincing way
38	child appreciates that s/he needs the help of others and makes reference to this (in matter of fact manner); does not just present competencies or inadequacies
39	convincing examples of parents soothing child: concrete and believable examples of the parent addressing/soothing/satisfying/comforting the child when the child was in distress or was otherwise upset
40	Has explanations for self and others' behavior (running commentary): child goes through the interview with constant reference to reasons for others' behavior and own behavior; no additional prompts are needed by the interviewer to get the child to report why things happened or why individuals felt a certain way
41	Child's body language or gestures indicate awkwardness about emotionally loaded subjects
42	The child gives general assurances to the interviewer that his/her relationships with parents (e.g. "it's just normal")
43	The descriptions of what happens with the parents seem full of superficialities and platitudes, apparently avoiding specific descriptions of interactions (e.g. "it is always fun", "she is a great mother")
44	Very disrespectful of the parent and the parent's role (without intense anger), e.g. "she (mother) is completely useless"
45	The child describes negative events (e.g. getting hurt) as though they are no problem, that they are unaffected
46	The coder feels that the child's response seems false, unconvincing (e.g. "I really like being with my Mom" is accompanied by a sad look and no example)
47	The child offers only 1-2 adjectives for the relationship with at least one of the parents

48	Examples and adjectives tend to be very 'concrete': physical descriptions ("he does lots of DIY"), or factual, (superficial) list of events (the child mentions trips with parents, with no elaboration)
49	There are gaps before most answers, during which the child seems to have trouble thinking of anything to say
50	Child avoids eye contact with the interviewer through most of the interview
51	Child does not show interest in or awareness of the thoughts or feelings of his parents (e.g. that they may get angry or worried)
52	Descriptions of relationships and events are empty of content or very bland (e.g. "It's OK", "Like everyone else..")
53	The child seems unemotional even about subjects which would usually be enjoyable or upsetting
54	child seems bored or resentful about the interview (e.g. sulky), appears to want to get the interview over, or is irritated about being asked personal questions
55	the child shows non-verbal signs of discomfiture, e.g. often plays with hair, rubs eyes, while looking anxious
56	child does not help the interviewer by volunteering information; interviewer has to solicit all information directly and explicitly (“pulling teeth”)
57	child says he or she cannot remember events or examples
58	Child avoids talking about attachment aspects of experience, e.g. instead of focusing on interactions with attachment figure focuses on impersonal aspects (e.g. child describes having meal with parent and only talks about the food).
59	child appears to assume that he/she is able to deal with most things by him/herself
60	child's responses appear to be the least possible in answer to question, not elaborated
61	The interview is unusually long (more than 40 minutes, not accounted for by interruptions, additional caregivers)
62	The interviewer finds it difficult to keep the interview moving and on track, because EITHER replies are vague and confused, OR the child gives extra or detailed examples of bad or wrong things happening
63	The child expresses anger or sadness that is either out of proportion to the events described, or is the predominant feeling expressed in the interview as a whole
64	The child wants the interviewer to agree with his/her view of situations being described, by expressing indignation or unhappiness (e.g. enlisting sympathy and support)
65	Affect tends to be unvarying and negative through the interview – e.g. vague, angry, miserable, annoyed, anxious
66	The examples offered in answer to one question seem to involve several negative aspects, e.g. the child is asked for an example of being separated, and brings in being ill, parent being upset with him, etc.,
67	The child tends to describe most relationships in caregiving terms, e.g. teachers, friends’ parents, are described as looking after or failing to do so

68	The child holds the floor and makes it hard for the interviewer to find space, EITHER child gives multiple or long examples, OR the child fills gaps with 'place-holding noises', such as "mmm… I mean .. well...", in other words seems to be intending to say something but does not come up with fully-formed ideas
69	The child addresses the topic, but gives EITHER over-detailed or multiple examples, OR wanders off from the story when anxiety-provoking situations are being discussed
70	Examples are told in an overly dramatic way, histrionic or drawn out
71	There is an impression that the child needs looking after, EITHER the child says that he/she is not being looked after properly, OR there is a feeling of neediness communicated by the way in which events are described (the child may seem sad or lost)
72	Child implies blame to others (notably the parents) for bad things happening, OR expects that things will always be bad
73	The listener cannot easily understand or follow what the child is saying
74	The interview is consistently bogged down, (e.g. the interviewer is flooded with irrelevant details, the child's answers keep wondering from the topic) and the interview ends up a little bit like treacle
75	A few examples are offered in answer to several questions, the child seems to have difficulty in remembering clearly and tries to go back to previously described events
76	The people or events are described at length but despite this, the picture remains vague
77	The child speaks as if lost in the narrative, e.g. EITHER as though complaining to or arguing with the parent, OR as though so caught up in what is remembered that he/she cannot take any perspective
78	Interviewer has to supply much of the organization to the interaction in order for the child to stay on track (e.g. prompting for information or clarification, reminding the child of the question, or persuading him/her to move onto another subject)
79	The child has difficulties in focusing on and answering the question (e.g. the child appears to have difficulty in finding words; child has difficulty in expressing an idea)
80	The child has great difficulty in thinking about experiences with the caregivers

B.2. CAQ Training I

Reading List

Cassidy, J., & Shaver, P. R. (1999). *Handbook of Attachment*. New York: Guildford Press.

Chapter 1 Nature of the Child's Ties
Chapter 5 Internal Working Models in Attachment Relationships: A Construct Revisited
Chapter 14 Measurement of Attachment Security in Infancy and Childhood

Maine, M. (1996). Introduction to the special section on attachment and psychopathology: 2. Overview of the field of attachment. *Journal of Consulting and Clinical Psychology*, 64(2), 237-243.

Shmueli-Goetz, Y., Target, M., Datta, A. & Fonagy, P. (in press). The Child Attachment Interview: A psychometric study of reliability and discriminant validity. *Developmental Psychology.*

Target, M., Fonagy, P., & Shmueli-Goetz, Y. (2003). Attachment representations in school age children: The development of the Child Attachment Interview (CAI). *Journal of Child Psychotherapy, 29*(2), 171-186.

Waters, E., & Deane, K. E. (1985). Defining and assessing individual differences in attachment relationships: Q-methodology and the organization of behavior in infancy and early childhood. In I. Bretherton & E. Waters (Eds.), *Growing points in attachment theory and research. Monographs of the Society for Research in Child Development* (Vol. 50, 1-2, Serial No. 209, pp. 41-65).

Q-Sort Instructions

1. Watch each interview along with its verbatim transcript

2. Make sure the 80 Q-sort items have been printed on individual cards. After watching the video, read each of the 80 items and place them in three piles (most characteristic, neutral, and most uncharacteristic of the child).

   When sorting each card keep the following questions in mind:
   - **Would you use this as a characteristic feature of the child?**
   - **Think of describing child to someone who doesn't know him/her?**
   - **Which items most or least characteristic of the child?**

3. Sort the piled items again using the scale provided below (Figure 1) ranging from -3 (most uncharacteristic) to 0 (neutral) to 3 (most characteristic). As indicated in Figure 1, a fixed number of items are placed under each point on the scale, which once completed takes the form of a quasi-normal distribution. The 4 items you consider most characteristic are placed under the column with value 3 and the next 8 items considered characteristic but to a smaller degree are placed under the column with value 2; sorting should continue in this manner until the response matrix is completed.

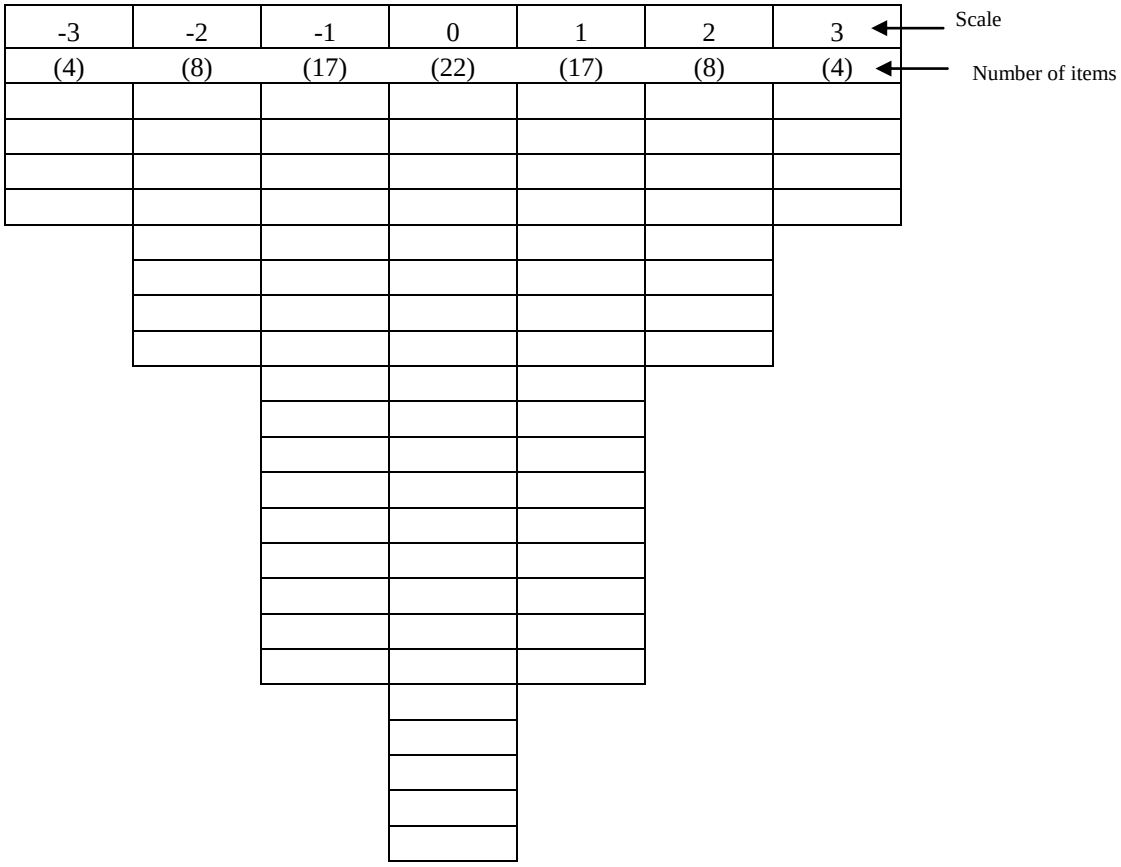
4. Use the excel file provided to input your Q sort coding for each interview.

5. The value assigned to each item will then be inputted into a computer program, from this we are able to yield a score for each scale. The scale with the highest score is the attachment classification that the child receives (YOU WILL NOT BE REQUIRED TO DO THIS).

****Note:**

- **After each Q sort that you complete, please make sure to mix the order of the cards before you begin your next coding so that they are in random order. This is very important, so please do not forget this step.**
- The DVD I have provided does not always work well on Windows Media Player and also sound manipulation is often limited, so it might be best to try using any other program you might have.

Figure 1. Quasi-normal distribution and response matrix for Q-sort items



Child Attachment Q-Sort (CAQ)

The Child Attachment Q-Sort (CAQ) is a coding system under development that aims to assist in the assessment of quality of attachment in middle childhood. It can be viewed as a further development of the CAI coding system which will use the same format to conduct a semi structured interview, but will require less training for coding.

The CAQ item sample was drawn independently from the CAI manual by four attachment experts (Tom O'Connor, Mary Target, Peter Fonagy and Gerry Byrne). All of these individuals were trained in coding the Adult Attachment Interview and are very familiar with other attachment instruments. The expert coders independently produced in excess of 200 descriptors of the narratives obtained from interviews. These items were then reviewed by the group and overlaps were eliminated and items combined. Some items which included descriptors often not found together were split into separate items. This process left in excess of 120 items.

For the development of Disorganized items, interviews of Romanian orphans (adopted by British families) were viewed by the panel, then discussed and relevant information was gathered. It is reasonable to assume that these interviews were indicative of Disorganized attachment behavior since all of these late adopted children had experienced severe neglect for varying amounts of time throughout infancy and early childhood.

The expert group then independently categorized all the items into four categories (Secure, Dismissing, Preoccupied and Disorganized). The agreement between the expert categorization was not surprisingly almost perfect, in terms of assigning statements to attachment categories. The items in each category were then rank ordered by the entire group, in terms of typicality of the item for that category and the 20 items agreed to be most typical were chosen for each of the four categories.

The CAQ consists of 80 items with 20 items corresponding to each type of attachment classification (Secure, Dismissing, Preoccupied, and Disorganized). Therefore the CAQ is comprised of 4 scales, with 20 items corresponding to each of one.

In the Q-set:

items 1-20 are supposed to be Atypical/Disorganized

items 21-40 are supposed to be Secure

items 41-60 are supposed to be Dismissing, and

items 61-80 are supposed to be Preoccupied

Please see below sample items from each scale:

Disorganized

1	appears frightened of the interview situation: child is cautious, careful, wary in his/her approach to the interview and interviewer; shows signs of modest distress that are not specifically linked to a topic in the interview;
2	bizarre facial expressions, grimaces, unrelated to context of interview: child exhibits shows silly, distorted, or unusual facial expressions (i.e. it is more important that the face is silly or unusual and "put on" that what the actual facial expression is) in a way that is apparently out of context

Secure

25	child appears engaged and interested in his/her memories of relationship episodes: child takes time to think back to events that happened
26	Child verbalizes deep affection for parents: child expresses very positive feelings about parents and shows unequivocal love for them;

Dismissing

42	The child gives general assurances to the interviewer that his/her relationships with parents (e.g. "it's just normal")
43	The descriptions of what happens with the parents seem full of superficialities and platitudes, apparently avoiding specific descriptions of interactions (e.g. "it is always fun", "she is a great mother")

Preoccupied

65	Affect tends to be unvarying and negative through the interview – e.g. vague, angry, miserable, annoyed, anxious
66	The examples offered in answer to one question seem to involve several negative aspects, e.g. the child is asked for an example of being separated, and brings in being ill, parent being upset with him, etc,

Please cut into individual cards each of the items found below:

1	appears frightened of the interview situation: child is cautious, careful, wary in his/her approach to the interview and interviewer; shows signs of modest distress that are not specifically linked to a topic in the interview;
2	bizarre facial expressions, grimaces, unrelated to context of interview: child exhibits shows silly, distorted, or unusual facial expressions (i.e. it is more important that the face is silly or unusual and "put on" that what the actual facial expression is) in a way that is apparently out of context
3	Child manages to unnerve or derail the interviewer: interviewer loses track of interview (e.g. skips section or repeats question or forgets important information child has provided), and discusses off-task topics (other than brief rapport-maintaining comments); interviewer shows moments of being confused or lost in terms of where s/he is in the interview; interviewer may appear upset or frustrated or is forced ‘to set limits’ for the child
4	child “zones out” during interview (trance-like): child looks very flat and then 'snaps back' into attention; loses concentration not attributable to hyperactive behavior or silly behavior that interrupts interview; child seems confused, absorbed elsewhere
5	child makes contradictory statements that are impossible to reconcile; either unaware of the contradiction in what s/he said, suggesting lack of self-monitoring, or has no interest in clarifying them, e.g. child states that she is with mother all the time but also that she is away and they only meet some weekends
6	grossly immature acts (e.g., silly to camera, making faces, acting goofy): making faces to the camera without regard to what kind of faces are being made; 'goofy' behavior is defined as hyperaroused, silly, uncontained affect, over-exuberance
7	psychologically confused statements than cannot be true about internal states of others: attribution for another's behavior is not possible, wildly distorted or extremely unlikely based on the circumstances or how individuals generally respond and think, or the knowledge available to the child; attribution might involve magical thinking, e.g. child mysteriously "knows" or "understands" somebody's state of mind with no contact
8	overly concrete thinking : child may repeatedly miss the point of a question about thoughts or feelings, be too literal in his/her interpretation of what the interview said or what the interviewer is getting at; 'theory of mind failure', for example "anybody close to you" is assumed to mean physically close
9	inconsistent engagement with interviewer: there are dramatic variations in the child's relation to the interviewer, so behavior toward interview(er) is not predictable, e.g. child swings between extremely friendly, intrusive behavior and remote, bored attitude
10	distracted by external factors (e.g., crisp packets), non-contextual behavior: child crumples food bags, plays with pens and other objects around him/her; to be scored highly the behavior must be pervasive and disruptive to the interview

11	incongruent examples: examples of adjectives (whether or not in response to the adjective question) are entirely inconsistent with the intended characteristic being described, either because they contradict the characteristic being described or do not relate in any even indirect way to the characteristic being described, e.g. the relationship with Mom is loving because she lets me sit on her lap and smoke her cigarettes. This does not include weak, unconvincing or idealizing examples
12	incoherent stories, narratives that do not make sense: it is extremely hard to follow what the child is saying; even 'filling in the gaps' leaves gross incongruities and oddities and inconsistencies; or there is a rambling quality to the story which never gets anywhere
13	child becomes overwhelmed by sadness or fear related to previous upsetting events, even though affect may be appropriate it is extreme and not containable for the child, e.g. child cries a great deal when describing separation from or death of attachment figure which are not recent events
14	child seems not to adopt and/or maintain the interviewer-interviewee context or norms of interviewer-interviewee roles; child may break out of interview mode to ask questions off task, e.g. personal or unrelated to the interview
15	seeks physical contact with interviewer, moves toward interviewer: in the course of the interview the child makes physical contact with the interviewer or interviewer's objects (pens, handbag, etc); or the child moves closely to the interviewer so as to be invading his/her personal space
16	child tries to set agenda, willfully controlling pace or content of interview; treats the adult interviewer as if the child were the expert and the interviewer were the student
17	hyperaroused/agitated: general affect and engagement in the interview is 'hyper', agitated; child may keep moving about, fiddling with objects
18	shows scorn/contempt for interviewer (acts as if interviewer is stupid): child answers in a way that s/he expected the interviewer to know already, or acts as if the interview question is silly or stupid or irrelevant;
19	unable to elaborate on questions that tap mental states; is “at sea” re: mental states (self and other): loses track of interview and doesn't get the point of the interviewer's questions about the "why" questions concerning mental states; child may seem lost, out of his depth
20	emotional states are not well modulated; there is turning “on and off” of affect or swinging to relative extremes: child shows both extreme bubbly/hyper/manic behavior as well as flat affect; the changes in affect are not gradual but as if by a switch (and can therefore come across as fake and ingenuine)
21	Open and convincing discussion of a range of feelings: the interview covers a range of feelings and the child is able to relate to all part of the interview; good and bad events and feelings are mentioned and the child is open to reporting events of a range of affects, not just neutral or positive or negative

22	examples supporting adjectives and of caregiving are recalled quickly, without protracted search or prevarication
23	conversational style is fluid and “goes somewhere”: conversation is back and forth, reciprocal, mutual, and there is an exchange of information;
24	child seems reflective and thoughtful: child takes the task seriously and tries hard to think of why behaviors and feelings occur; child is eager to help the interviewer understand his/her point of view
25	child appears engaged and interested in his/her memories of relationship episodes: child takes time to think back to events that happened
26	Child verbalizes deep affection for parents: child expresses very positive feelings about parents and shows unequivocal love for them;
27	Shows immediate pleasure when asked to think about parents: immediate and clear smile on face when asked to think of examples to describe relationships with mother and father
28	Clear evidence of going to parent for emotional help/guidance/support, a specific example is given in which child was upset and sought comfort from parent
29	affect is appropriate to what is being described: regardless of what the content is (i.e. good or bad), the child's affect is neither too flat nor over-exuberant
30	the child understands what is being asked for : child readily appreciates what the interview is about and understands the interviewer's focus on the emotional relationship and feelings and thoughts associated with it; there is a 'shared attention' in the interview; child is collaborative with interviewer; fills in gaps to provide explanation but does not overdo this
31	the child readily comes up with examples: the child is able to tap into a rich store of memories from which to choose vivid examples, examples concern emotionally salient experiences, they appear meaningful - neither bland nor trivial
32	child seems interested in the task in their non-verbal behavior, e.g. makes and keeps eye contact, orientates body towards interviewer, gestures are related to narrative
33	parents are described in believably mixed terms, some good, some bad aspects
34	able to take another’s perspective: child readily refers to how others think and feel in the course of the interview; this understanding helps the child to describe and explain events in a coherent way
35	Values accuracy: honesty in reporting relationship experiences: child works very hard to think of what it was that actually happened in the past; the child is keen to get the interviewer to be able to 'see' what happened and get a sense of what it was like; child does not make short cuts in describing and does not seem to skip over details
36	For each question, child pursues "story line" with confidence and determination (narrative is shaped by overall affective theme which makes the narrative interesting and engaging to the listener)

37	can describe negative emotional experiences with relative clarity (sufficient detail but also succinct); even very difficult interactions or patterns can be discussed with interest and in a convincing way
38	child appreciates that s/he needs the help of others and makes reference to this (in matter of fact manner); does not just present competencies or inadequacies
39	convincing examples of parents soothing child: concrete and believable examples of the parent addressing/soothing/satisfying/comforting the child when the child was in distress or was otherwise upset
40	Has explanations for self and others' behavior (running commentary): child goes through the interview with constant reference to reasons for others' behavior and own behavior; no additional prompts are needed by the interviewer to get the child to report why things happened or why individuals felt a certain way
41	Child's body language or gestures indicate awkwardness about emotionally loaded subjects
42	The child gives general assurances to the interviewer that his/her relationships with parents (e.g. "it's just normal")
43	The descriptions of what happens with the parents seem full of superficialities and platitudes, apparently avoiding specific descriptions of interactions (e.g. "it is always fun", "she is a great mother")
44	Very disrespectful of the parent and the parent's role (without intense anger), e.g. "she (mother) is completely useless"
45	The child describes negative events (e.g. getting hurt) as though they are no problem, that they are unaffected
46	The coder feels that the child's response seems false, unconvincing (e.g. "I really like being with my Mm" is accompanied by a sad look and no example)
47	The child offers only 1-2 adjectives for the relationship with at least one of the parents
48	Examples and adjectives tend to be very 'concrete': physical descriptions ("he does lots of DIY"), or factual, (superficial) list of events (the child mentions trips with parents, with no elaboration)
49	There are gaps before most answers, during which the child seems to have trouble thinking of anything to say
50	Child avoids eye contact with the interviewer through most of the interview
51	Child does not show interest in or awareness of the thoughts or feelings of his parents (e.g. that they may get angry or worried)
52	Descriptions of relationships and events are empty of content or very bland (e.g. "It's OK", "Like everyone else..")
53	The child seems unemotional even about subjects which would usually be enjoyable or upsetting
54	child seems bored or resentful about the interview (e.g. sulky), appears to want to get the interview over, or is irritated about being asked personal questions
55	the child shows non-verbal signs of discomfiture, e.g. often plays with hair, rubs eyes, while looking anxious

56	child does not help the interviewer by volunteering information; interviewer has to solicit all information directly and explicitly (“pulling teeth”)
57	child says he or she cannot remember events or examples
58	Child avoids talking about attachment aspects of experience, e.g. instead of focusing on interactions with attachment figure focuses on impersonal aspects (e.g. child describes having meal with parent and only talks about the food).
59	child appears to assume that he/she is able to deal with most things by him/herself
60	child's responses appear to be the least possible in answer to question, not elaborated
61	The interview is unusually long (more than 40 minutes, not accounted for by interruptions, additional caregivers)
62	The interviewer finds it difficult to keep the interview moving and on track, because EITHER replies are vague and confused, OR the child gives extra or detailed examples of bad or wrong things happening
63	The child expresses anger or sadness that is either out of proportion to the events described, or is the predominant feeling expressed in the interview as a whole
64	The child wants the interviewer to agree with his/her view of situations being described, by expressing indignation or unhappiness (e.g. enlisting sympathy and support)
65	Affect tends to be unvarying and negative through the interview – e.g. vague, angry, miserable, annoyed, anxious
66	The examples offered in answer to one question seem to involve several negative aspects, e.g. the child is asked for an example of being separated, and brings in being ill, parent being upset with him, etc.,
67	The child tends to describe most relationships in caregiving terms, e.g. teachers, friends’ parents, are described as looking after or failing to do so
68	The child holds the floor and makes it hard for the interviewer to find space, EITHER child gives multiple or long examples, OR the child fills gaps with 'place-holding noises', such as "mmm… I mean .. well...", in other words seems to be intending to say something but does not come up with fully-formed ideas
69	The child addresses the topic, but gives EITHER over-detailed or multiple examples, OR wanders off from the story when anxiety-provoking situations are being discussed
70	Examples are told in an overly dramatic way, histrionic or drawn out
71	There is an impression that the child needs looking after, EITHER the child says that he/she is not being looked after properly, OR there is a feeling of neediness communicated by the way in which events are described (the child may seem sad or lost)
72	Child implies blame to others (notably the parents) for bad things happening, OR expects that things will always be bad
73	The listener cannot easily understand or follow what the child is saying
74	The interview is consistently bogged down, (e.g. the interviewer is flooded with irrelevant details, the child’s answers keep wondering from the topic) and the interview ends up a little bit like treacle

75	A few examples are offered in answer to several questions, the child seems to have difficulty in remembering clearly and tries to go back to previously described events
76	The people or events are described at length but despite this, the picture remains vague
77	The child speaks as if lost in the narrative, e.g. EITHER as though complaining to or arguing with the parent, OR as though so caught up in what is remembered that he/she cannot take any perspective
78	Interviewer has to supply much of the organization to the interaction in order for the child to stay on track (e.g. prompting for information or clarification, reminding the child of the question, or persuading him/her to move onto another subject)
79	The child has difficulties in focusing on and answering the question (e.g. the child appears to have difficulty in finding words; child has difficulty in expressing an idea)
80	The child has great difficulty in thinking about experiences with the caregivers

B.3. CAQ Training System II

CHILD ATTACHMENT Q-SORT (CAQ)

CODING AND CLASSIFICATION MANUAL FOR CHILD ATTACHMENT INTERVIEW (CAI)

VERSION II – MARCH 2009

Developed by
Athena Tsiokris, Mary Target and Peter Fonagy

Research Department of Clinical, Educational and Health Psychology
University College London,
Gower Street, London WC1E 6BT
United Kingdom

This is the current version of the manual. Work to update, modify and clarify the coding system is ongoing. The manual may not be circulated or quoted without prior permission from the authors. Some of the material in this manual has been adopted from the *Child Attachment Interview (CAI): Coding and classification manual version V* (Shmueli-Goetz, Target, Datta, & Fonagy, 2004)

Types of Attachment Classifications

Disorganized

In their formulation, Main and Solomon coined the term disorganized/disoriented (D) to describe various bizarre and contradictory infant behaviors in response to the Strange Situation separation-reunion procedure. Main and Hesse (1990) further postulated that these behaviors reflected a breakdown of organized strategy that may have resulted from a relationship where either the parent's behaviors is frightening or the parent is frightened herself/himself. The "disorganization in the infant may be reflective of the disorganization in parental caregiving strategies, and that developmental changes occur over time such that the initially disoriented and disorganized infant comes to assume a somewhat parental role within the parent-child relationship". They further suggested that the need for control stems "out of a need to care for or control a parent whose own caregiving strategy had been disorganized by loss or by other traumatic events."

Further, Lyons-Ruth (in press) drew a distinction between infants of frightening or hostile mothers and those of helpless/fearful mothers hypothesizing that D/secure infants may become withdrawn, frightened, cognitively and behaviorally disorganized and dissociated in early and middle childhood as a consequence of mothers' frightened behavior. D/insecure infants may employ hostile, punitive aggressive and controlling strategies resulting from mothers' frightening behavior.

Whilst preliminary data does not as yet enable us to clearly specify how behaviors identified as 'D' in infancy may translate into middle childhood, several proposed indicators are presented below.

Sudden switches of affect in response to loss, trauma, and/or frightening experiences (e.g., switch from animated descriptions to complete silence in response to a loss or trauma question), interrupted speech (e.g., freezing, or long pauses).

Excited/frightened oscillation, turning one feeling to another feeling. Affects states that are irreconcilable or incompatible with the context and content of the description relayed, and any bizarre behavior, bizarre descriptions of death including loss of pet when the description of loss clearly stands out in relation to the rest of the interview.

In addition to the above indicators, we have assessed several children that have clearly shown controlling-punitive behaviors within the interview largely expressed in controlling behavior and at times clearly abusive behavior towards the interviewer.

Other, more subtle but nevertheless controlling forms of behavior include withholding information (For example, a child saying "I have a lot to tell you but can't").

• Example of a lengthy unlicensed pause and sudden mood swing.

To provide a context for the silence observed, the response given by one child to what happens when she gets hurt is briefly presented prior to the silence.

> Mummy and daddy took me to the hospital where I was born. *How did you feel?* I still had to go to school (very excited, makes faces). *That must have been tough?* The child then starts singing "Do you ever dare to scare your mum and dad's underwear, do you ever dare to scare your brother or you sisters' or your mum's or your dad's underwear…" *Some children I've talked to have told me they've been touched in their private body parts, Has that happened to you?……..***28 seconds pause** (becomes frozen, somber, very serious expression on face). Can you say that again? *Some children I've spoken to have told me that they've been touched in their private body parts, has that ever happened to you?* Uhm..no. (rate ??)

> • Another example of long silence was observed in a child's response to being asked to provide three adjectives to describe his relationship with his father.

> *Can you tell me three words to describe how it's like to be with your dad?* Good**…..50 seconds pause.** Can't think of anything else. *Ok, why did you choose that word?* Because he takes me and my brother out somewhere far so that we can see where he goes everyday. *He takes you somewhere far, where does he take you?* I don't know. *Does he take you to work?* No. *Out to the countryside?* No. *So it's just far away from where you live?* Ya. *And where is it?* Shops. *Tell me about a time when it felt good to be with your dad?* When he took us very far to someone's house and we felt very good and we ahm we walked a bit and …nothing else. *Can you tell me when that happened?* Before ahm don't know when.

> • Example of incompatible affect (incongruity between external expression and content of response).

You said she then sends you to your room and then what happens? She said, she always says I have to stay in my room for the rest of the day but she don't really mean that. *How do you feel when that happens?* Oh I can't remember. *So when she sends you to your room, what do you do then?* Don't know, she hits me I just sit about for 10 seconds later and then come out. When she hits me I ran up to my room and hide under the cupboard and I start to cry (laughs with large grin) *Right, I see*. I have to hide and once my mum was really angry with me and I blocked down the door and hid in my cupboard and she just, I don't know how she could just push open the door because there was my big heavy desk and I hid in the cupboard and I don't know why, I don't know how she knew I was in the cupboard and she opened the cupboard and I was there (tells the story with excitement, inappropriate to the content of the story). *Oh so she found you. Do you get frightened sometimes when your mother gets upset?* Ya it scares me. *What would happen then, would it be resolved?* I would say sorry and
give her a cuddle (laughs).

• Example of bizarre, incoherent response to loss of pet

I also felt sad when my animal died Nan got a friend and her mum's budgie died. I'm going to cry when I tell it, she didn't even tell me that she gave the budgie away, she kept on telling me that it flew out the window. *How did you feel?* Sad, I cried, in fact I'm just going to start crying now. *Did you love the budgie?* I loved it with all my heart, it sat on my finger. *It was your friend?* My only friend. *Why did you grandmother give it away?* Because the woman would be crying for the rest of her life, my aunt's friend's mum. *Why?* When had a special dinner. Get cucumber and feed it to the budgie. I think she thought the woman was upset but what she didn't know was that when one of my pet dies so I soon go over it but Nan didn't know that she could get over it. *Who could get over it?* My aunt's friend's mum's budgie died but before then my dog died but I'm over it. *Were you upset?* I was a baby, it was a German Shepherd, I was zero when it died, no I was one year old. The cat died but we got another one. We took the cat to the vet and it died at the vets. (Playing with her ear) I'm just looking at my earrings, last night I looked at it and had stuff behind the ear, found some green stuff but it's absolutely clear (changes subject).

The above child showed a number of other unusual features which we will be considering as indicators of disorganization of attachment strategy. For the moment we will simply list them:

Bizarre associations or intrusion of catastrophic images (e.g. talking about getting lots of presents, everything she ever wanted, she describes an advertisement showing how not having a smoke alarm can lead to child being killed in fire, however many presents there are).

In sequence quoted above, affect appears somewhat simulated (does not cry earlier in interview when appears very sad, but crying over loss of budgie is announced beforehand and appears more staged).

The child repeatedly describes herself as taking care of the parents, particularly by cleaning up whenever either parent is upset. This child also seems to have a fantasy of having been a completely competent baby: she remembers exactly what her dog looked like although he died when she was a baby. Much more oddly, she believes she learned arithmetic from her grandfather who died around the same time – this is either evidence of disorientation with respect to time of the grandfather's death, or of a bizarre assumption that she was able to learn arithmetic at under a year of age.

Another conspicuous aspect of this child's interview is mixing up her relatives. Although she has a complicated family situation, the degree of disorientation with respect to person seems abnormal.

The child describes behavior that is an ineffectual, infantile strategy in the context of separation (she says she locks her mother into the house to stop her going away). The verbal description was coherent but the behavior described was not.

Another way in which this child describes herself is as like a machine – a cleaning machine for cheering up her parents, or a killing machine.

A further but more doubtful feature is escalation of the theme of loss: multiple experiences of loss are added without prompting.

This is by no mean an exhaustive list of possible Disorganization markers.

Secure

• Flowing quality to the narrative. Prompts by the interviewer are relatively infrequent and narrative production is generally spontaneous.

• 'Secure' children tend to be overall collaborative when recounting relationship episodes and present a coherent and consistent picture with little or no 'Idealization'. If 'Idealization' is present, the discrepancy between the semantic and episodic levels is minor and functions to present a slightly more favorable picture but not as a complete distortion of childhood experiences.

• Relatedly, 'Secure' children (and some adults) tend to display a slight positive bias, particularly in the 1st part of the interview. If this positive view is substantiated in the latter part of the interview with specific episodes, this does not lead to 'Idealization' but is rather indicative of a slightly unbalanced view of attachment figures/relationships. As a general rule, 'Secure' children are able to discuss both positive and negative aspect of their attachment figures. Even if adjectives describing their relationship to both attachment figures are exclusively positive, discussion of times of conflict is fairly open and is not deflected or blocked. Some recounting of less favorable interactions with attachment figures would be fully described as well as those aspects of parents which are less positive or 'ideal'.

• Secure children most often express a clear valuing of attachment relationships across the interview as a whole. Acknowledgment of the impact of a separation from attachment figures, a need for comfort and attention at times of illness, physical injury, and conflict, and a clear sense of the bond between the child and the attachment figure is conveyed. This however, does not imply that secure children openly express a sense of valuing for each and every relationship episode containing the above themes. Some secure children may express a sense of vulnerability and dependency upon an attachment figure in one or two particular relationship episode but then not in a subsequent episode.

• Affective descriptions of relationship episodes are common and unlike those children judged 'Avoidant/Restricted', emotions are not merely labeled, but placed within a relational context and elaborated upon. Secure children are able to describe multiple and at times conflicting emotions in an open and coherent manner. The degree of spontaneity in the expression of emotions may vary quite considerably, but the judge's perception will be that the child conveys a sense of emotional understanding and openness as opposed to a sense of emotional restriction.

• Secure children provide on the whole detailed, elaborate, and relevant examples to corroborate their general relationship descriptors. This however does not mean that each and every relationship episode is elaborated upon. Instances of inability to recall are at a minimum, and even when children reports loss of memory, it is not intended to block any further discussion.

• Slight present anger may be expressed, but in a contained manner.

• Secure children discuss times of conflict in a coherent and truthful manner, and most often describe constructive resolutions to those conflicts. Some children may not directly address the resolution of the conflict under discussion, but the judge has the impression that the conflict is no longer active.

• Secure children are able to present a balanced view of relationships and parents and may discuss difficulties in the relationship or parents in an open and coherent manner, and discuss less than 'ideal' aspects of parents with acceptance whilst also describing imperfections in themselves.

> For example, a 10-year-old boy described an aspect of his mother as "crazy". When asked to elaborate he replied "Well she was sort of running about, saying things like "Oh go and then go do that, go do that" and she was being a nutter, she was just being really erm how should I say, well she is a crazy person and I suppose I take after her too"
> *What had you done to upset your dad?* "I had just wound hi up cause first it started off as a joke and then he said to stop it but I didn't stop and so he'd gotten upset with me". *And did you know why he was getting angry?* "Yeah because I was just, I knew I was annoying him too much but for some reason I just couldn't stop, I just had to keep on going"

• Some 'Secure' children, but not all, may show instances of reflectiveness indicated in their ability to express representational diversity, or a shift in representations.

Dismissing

• Attachment is de-activated, down regulation of attachment

• Dismissing children frequently emphasize their independence and self-sufficiency. This is particularly pronounced in discussions of times of hurt or illness. Whilst secure children would turn to an attachment figures for help, support and comfort, dismissing children report relying upon themselves.

• Attempts to present attachment figures as 'perfect' or 'ideal' fail in the face of unsubstantiated adjectives or descriptive words to describe the relationship. Autobiographical memories are either relatively absent or actively contradictory to the description of the relationship at the abstract level.

• Some recounting of unfavorable experiences with attachment figures may be present and flaws in parents may be described but these are often unelaborated and/or are shortly after deflected or cancelled out with positive descriptions.

• Discussion of both positive and negative affect is largely absent, in particular feelings of vulnerability, need, and dependency. On those occasions where feelings are expressed, they are not elaborated upon but merely labeled. The sense is that dismissing children can label feeling states and know which are appropriate in different contexts, but responses are scripted, restricted and lack any connectedness and emotional quality. Further, labeling of feeling states often comes as a direct consequence of prompting from the interviewer and is rarely spontaneous expressions. Judges must therefore be very careful in distinguishing emotional openness from the simple and context appropriate labeling of affect.

• A characteristic marker of interviews of Dismissing children is the strong emphasis on activities and material objects in the service of substantiating and supporting positive descriptions of attachment relationships and interactions. In these interviews, reports of fun activities with parents or shopping trips with parents where the child receives a new toy or game are put forward as substitutes for more 'relational' interactions. Thus, a representation of an attachment relationship that is functional in nature and predicated on the giving of material rather than emotional comfort emerges. For example: "*Can you tell me about a time you felt happy with your mum?* That probably half an hour ago when I found out when I was going to Boston, which was fun, happy. *And a fun time?* Erm is was probably last August, maybe July erm cause they'd already gone on holiday, I thought I was going to [place] and I was given some dollars and found out I was going to [place] for two weeks half an hour before I was on the plane".

• An episodic memory offered in support of a general positive descriptor is often repeated and offered as support for another positive descriptor resulting in an episodically impoverished narrative. Furthermore, like adult responses in the AAI, some word for word substitution occurs.

For example, a 10-year-old child described her relationship with her mother as fun, tiring, and enjoyable. When asked for an example for a 'fun' time with mum, she reported that she cooks and bakes with mum and that it is enjoyable. When asked to think of an example of a time that was enjoyable with mum, the same child said "I enjoy being with her because we can always make a lot of fun together. If I do anything with her I enjoy it".

• Dismissing children will frequently respond with "I don't know" or "I can't remember" when asked to provide a specific episode, sometimes with little apparent effort to recall. Reports of lack of memory in these instances reflect an attempt to block further discussion of the topic rather than a genuine lack of memory. By extension, some children respond by saying "I can't really explain" which also appears to have s a similar function.

• Interviews with Dismissing children often include substantial prompts from the interviewer and are marked by restricted and short responses. These interviews are by and large shorter than interviews with their secure or preoccupied counterparts.

• Expressions of feelings of anger or crossness often replace those of upset, sadness or hurt. This is particularly evident in discussions of conflicts with parents.

• Acknowledgement of the impact of loss, separations, and times of need is largely absent. If feelings are referred to, by and large they are qualified with word such as "a bit" or "quite".

> For example, when asked about a long separation from her mother, the child said "I didn't really notice not being with her. Well I like being with her but I don't actually like being with her in [place] because I like doing my own thing". Another child was asked how he felt about his great

grandmother dying to which he replied, "I didn't care". Whilst this child wasn't particularly close to his great grandmother, a secure child would have replied "I was a bit upset but not that much because I wasn't very close to her".

• Little or no reference to attachment figures when describing in particular times of illness and physical injury, reflecting a sense of absence of representations of attachment figures and lack of relatedness.

For example, when a 9-year-old girl was asked what happens when she's ill, she replied "If I'm really ill I stop school and um someone looks after me and I watch telly in bed. When asked what happens when she's physically hurt herself, the same child replied " It gets cleaned and I get plaster on it". In response to the question "*Can you tell me about a time when you felt upset and wanted help*" a 9-year-old boy said "Let's think, it's probably when I erm you know school and erm bang my eye you know couple of weeks ago, actually ages ago now it's still a bit of a bump and you know I go to hospital and you get help then. *So what happened?* I cracked heads with somebody ended up at home and. *So the teacher rang your parents?* Erm well I went home and put some ice on my eye. I went down to the hospital to make sure I haven't cracked any bones, then I found out that I haven't and then I went home and gradually gradually got better. *OK and who put the ice on your eye?* Erm first of all one of the teachers at school did and then my mum did. *Right, What happens when you're ill?* I don't know. Well I'm usually taken to the doctor if its ill and looked after".

• Flat quality to interviews, disassociated, disconnected, barren.

• Low maintenance of eye contact, and low engagement with the interviewer/task. This lack of engagement may be clearly accentuated when questions are more focused on the attachment relationship, and less so on more neutral topics.

Note: it is very important not to confuse developmental immaturity with a dismissing strategy towards attachment. Younger and less verbally intelligent children may speak in relatively concrete and unelaborated ways about episodes with their parents, yet on other criteria they may appear to be secure (e.g. they have warm, confiding and confident relationships with caregivers). Here, the key is to bear in mind that the classification of avoidance rests on a combination of features, not the single criteria of elaboration or being able to speak in relational terms. The distinction should be made clearer by looking at the way in which the child is able to use scaffolding from the interviewer, to elaborate episodes and bring them more to life emotionally through descriptions, with help.

Similarly, a child who seems to talk largely in terms of activities or material possessions may be able to show, across the whole interview, that his or her representation of the relationship is more complex and includes an emotional dimension. For instance, a child may first reply in terms of being given things, or what the parent does in any situation, but the description of episodes includes emotional contact, which is included as important and implicitly valued by the child. The child's narrative will contain some descriptions, e.g. about conflict, loss or separation, which include an emotional aspect that is grounded in the relationship which then indicates to the judge that this is not a child who needs to turn attention away from attachment relationships, but one who uses activities or possessions to convey closeness and other emotional qualities of the relationship, positive or negative.

Preoccupied

This category includes cases where the predominant strategy seems to be one of remaining preoccupied with the parent, and/or involving the interviewer in repetitive themes. Our experience thus far has not included many examples of this pattern, and all have involved clear flashes of anger and/or contemptuous descriptions of the parent. However, **any pattern of narrative which conveys an excessive focus on the parent and concern with the relationship should raise the question of an entangled attachment representation.**

For example, a child who repeatedly brings in descriptions of the parent being upset, needing help - or generally concern about the parents' needs or feelings – would be seen as describing a role-reversed or 'parentified' situation (whether in reality or fantasy). Similarly, if a child brings in a lot of irrelevant detail about the interactions with the parent, or gives many unsolicited examples of episodes with him or her, this could be an indicator of an entangled relationship representation.

Some children may convey fearful preoccupation, so that they seem to be constantly on the lookout for mental or physical danger in the relationship with the parent. There may also be a preoccupation with danger when *away* from the parent, so that the child represents him or herself as needing to stay very close to the parent and fearful of separation. This relationship may or may not be felt by the child to be comforting when the parent is present.

We have not so far found many examples of 'passivity' as identified within AAI narratives, and where found these do not seem necessarily to serve the function of maintaining preoccupation without clarity (through vague, rambling or trailing descriptions). The few cases seem to be more fruitfully thought about in terms of disorganization of attachment representations, than in terms of preoccupation. The affective state appears more dissociated. We have therefore not included a scale of passive speech, and await further experience

CAQ General Information

The Child Attachment Q-Sort (CAQ) is a coding system under development that aims to assist in the assessment of quality of attachment in middle childhood. It can be viewed as a further development of the CAI coding system which will use the same format to conduct a semi structured interview, but will require less training for coding.

The CAQ item sample was drawn independently from the CAI manual by four attachment experts (Tom O'Connor, Mary Target, Peter Fonagy and Gerry Byrne). All of these individuals were trained in coding the Adult Attachment Interview and are very familiar with other attachment instruments. The expert coders independently produced in excess of 200 descriptors of the narratives obtained from interviews. These items were then reviewed by the group and overlaps were eliminated and items combined. Some items which included descriptors often not found together were split into separate items. This process left in excess of 120 items.

For the development of Disorganized items, interviews of Romanian orphans (adopted by British families) were viewed by the panel, then discussed and relevant information was gathered. It is reasonable to assume that these interviews were indicative of Disorganized attachment behavior since all of these late adopted children had experienced severe neglect for varying amounts of time throughout infancy and early childhood.

The expert group then independently categorized all the items into four categories (Secure, Dismissing, Preoccupied and Disorganized). The agreement between the expert categorization was not surprisingly almost perfect, in terms of assigning statements to attachment categories. The items in each category were then rank ordered by the entire group, in terms of typicality of the item for that category and the 20 items agreed to be most typical were chosen for each of the four categories.

The CAQ consists of 80 items with 20 items corresponding to each type of attachment classification (Secure, Dismissing, Preoccupied, and Disorganized). Therefore the CAQ is comprised of 4 scales, with 20 items corresponding to each of one.

In the Q-set:

items 1-20 are supposed to be Atypical/Disorganized

items 21-40 are supposed to be Secure

items 41-60 are supposed to be Dismissing, and

items 61-80 are supposed to be Preoccupied

CAQ Items Explained

Item 1
appears frightened of the interview situation: child is cautious, careful, wary in his/her approach to the interview and interviewer; shows signs of mild or moderate distress that are not specifically linked to a topic in the interview;

- Signs of mild or moderate distress include: child avoiding eye contact with the interviewer; quick glances at the interviewer that may seem frightened and/or anxious; child looks uncomfortable (not related to boredom) and anxious; non-verbal signs of anxiety

Item 2
bizarre facial expressions, grimaces, unrelated to context of interview: child exhibits shows silly, distorted, or unusual facial expressions (i.e. it is more important that the face is silly or unusual and "put on" that what the actual facial expression is) in a way that is apparently out of context

Example
(Like mom) ***What sort of things would you not want to be like your mom? (****Pauses whilst making faces at camera). I don't know. (Pauses whilst staring at the camera). When your stare at it real good it goes like to big circles and it looks like big fires or fireworks or orange fireworks.*

Item 3
Child manages to unnerve or derail the interviewer: interviewer loses track of interview (e.g. skips section or repeats question or forgets important information child has provided), and discusses off-task topics (other than brief rapport-maintaining comments); interviewer shows moments of being confused or lost in terms of where s/he is in the interview; interviewer may appear upset or frustrated or is forced 'to set limits' for the child

Example
(Mom-Loving) ***Example?*** *She hugs me.* ***Yeah?*** *So does my friend. (Smiles – raising eyebrows).* ***Jocelyn?*** *Yeah.* ***Girlfriend?*** *Yeah.* ***Nice?*** *Yeah, she's alright.* ***Same age?*** *(Covers face and screams).* ***How old?*** *Huh?* ***How old?*** *Ten. I bet Karen's your girlfriend. Isn't she?* ***No.*** *Who is? The Queen.* ***Pardon?*** *The Queen.* ***The queen. I'm married.*** *Are you? To who?* ***My wife.*** *Who is your wife?* ***Don't know her.*** *Huh.* ***Don't know her.*** *Who?* ***Name?*** *Yeah.* ***Becky.*** *Becky. Hmm. (Pause). Have you ever had it off? Oh sorry. (Covers mouth with hand). Sorry. Sorry, that was a personal question. (Laughing) Sorry. You're laughing. Sorry. (Laughs).* ***I won't answer that question.*** *Sorry. You have. (Laughs).* ***Moving on.***

Item 4
child "zones out" during interview (trance-like): child looks very flat and then 'snaps back' into attention; loses concentration not attributable to hyperactive behavior or silly behavior that interrupts interview; child seems confused, absorbed elsewhere

Example
Some children have told me they've been touched in their private parts. That happened to you? *(Very long pause – child is standing very close to interviewer, staring at the question sheet).* ***Difficult question.*** *(Nods) Can you say it again?* ***Ever been touched in private parts?*** *Hmm, no (shaking head).*

Item 5
child makes contradictory statements that are impossible to reconcile; either unaware of the contradiction in what s/he said, suggesting lack of self-monitoring, or has no interest in clarifying them, e.g. child states that she is with mother all the time but also that she is away and they only meet some weekends

Example
(Dad-Upset) ***What happens?*** *He says (pause)* ***What?*** *He says (long pause) go up to bed you naughty boy.* ***Ok.*** *He just shouts.* ***Shouts?*** *(Shouting) Go up you naughty boy!* ***Last time?*** *Last time, my dad was happy. That's all. I'm finished.*

Item 6
grossly immature acts (e.g., silly to camera, making faces, acting goofy): making faces to the camera without regard to what kind of faces are being made; 'goofy' behavior is defined as hyperaroused, silly, uncontained affect, over-exuberance

Example
(Separation & Parents-Argue) *(Standing on table)* ***Do you mind sitting down?*** *(Very high-pitched voice). No, I don't want to, I don't want to. I want to stand up on the table (laughs).* ***Must see in camera.*** *(Sits on table) Ok then I'll go down here.* ***A chair with no one in it.*** *Yeah, but look.* ***Let's have a look if I can see you through camera.*** *(Child leans forward with face up close to camera) Hello!* ***When see mom and dad again?*** *Happy […] (Leans forward and sticks tongue out at camera).* ***Do you parents argue?*** *(No reaction - making a funny face at camera).* ***Do you parents argue?*** *Yep (continues to make strange faces – laughs)* ***Happens?*** *They go (shouting and pointing) "You lost my car keys" "No I did not."* ***True?*** *No, I'm making it up (laughing hysterically). Yeah I like doing that.* ***Can I ask you final question?*** *Yes (howls like a wolf).*

Item 7
psychologically confused statements that cannot be true about internal states of others: attribution for another's behavior is not possible, wildly distorted or extremely unlikely based on the circumstances or how individuals generally respond and think, or the knowledge available to the child; attribution might involve magical thinking, e.g. child mysteriously "knows" or "understands" somebody's state of mind with no contact

- psychologically confused statements refers to statements that are very unlikely or quite odd
- Examples of this can include "I know my mom loves me and cares for me" when mom is dead or behaves in consistently very rejecting/neglectful manner toward the child, or "My dad punishes me because we think it's funny."

(Child – nice) And yesterday I just wanted to jump into the train but my mom said no you'll kill yourself, you'll get electrocuted, you know when you feel like you just have to do it *(angry)* no I just felt that I needed to do that (*why)* I don't know I just felt like it. My brother really want to jump over I actually caught him (*What he nearly did do that he nearly jumped in front of the train)* well these were no trains coming (*oh he jumped onto the track, did you want to it after he had done)* I wanted to do it first, I really feel like doing it.

Item 8
overly concrete thinking : child may repeatedly miss the point of a question about thoughts or feelings, be too literal in his/her interpretation of what the interview said or what the interviewer is getting at; 'theory of mind failure', for example "anybody close to you" is assumed to mean physically close

Example
Has anyone close to you ever died? Your mom died didn't she? *Nobody died close to me.* ***How about your mum?*** *She didn't die close to me.* ***Close to you like you loved her.*** *Yeah.*

(Mom-good) Example? When I was cuddling her (speaking softly – playing with toy). *What?* When I was cuddling her. *What?* When I was cuddling her. *When you were?* Cuddling her. *When?* (Clicking mouth) all the time (rests head on table). *Last time?* Once upon a time on the couch, and my two sisters waiting. *You and mom?* Yeah. *Doing?* Nugh (strange noise - drops head onto table). *Cuddling?* (No reaction). *At home?* Yes (still playing with toys). *Feel?* I felt warm. *Mom felt?* I don't know. I don't know.

(Mom-upset) *Feel?* I felt, hmm, well my bottom feels um all red, and I feel.

Item 9
inconsistent engagement with interviewer: there are dramatic variations in the child's relation to the interviewer, so behavior toward interview(er) is not predictable, e.g. child swings between extremely friendly, intrusive behaviour and remote, bored attitude

Example
Example of time when dad was upset? *No (exasperated – falls back on chair) it's hard.* ***It's a hard interview.*** *(Pouts).* ***Can you think of an example?*** *I also made up (sings) 'Do you ever dare scare your dad's underwear'.* ***Would you like to scare your dad's underwear?*** *Yeah (laughs). And um, I then pull his clothes and look down his chest and go (high-pitched voice) 'Ohh, there's a forest of hair. Where's the hairy fox, where's the hairy otter, where's the hairy squirrel, where's the hairy wolf, where's the hairy rabbit?'* ***Where do you look?*** *Down his chest (hysterically laughing) He's got lots and lots of hair. And I go (looking down own top) like that. […]* ***Ever felt upset and wanted help?*** *(Playing with home-made hat – suddenly seems distant) no.* ***Can you think of an example?*** *No I can't.*

Item 10
distracted by external factors (e.g., crisp packets), non-contextual behavior: child crumples food bags, plays with pens and other objects around him/her; to be scored highly the behavior must be pervasive and disruptive to the interview

Example
(Nanny-good)(Child looking through interviewer's folder, asking questions for each page, tries to take page out, interviewer stops him, continues asking questions) What is it like to be with nanny? (pause, continues looking through folder and gasping) Good. *Yeah.* Where did you get all of this (runs finger down the page)? *We brought them in a shop.* Oh you got thousands. *Why is it good to be with nanny?* (continues to flip through folder) Because I like it. Can I keep this one? (picks a page out of the folder). *We need that.* What for? *To keep in there to separate.* Oh yeah. *The first are pictures of girls and the second of boys.* (continues flipping through folder, pause) Oh you don't need to do that, you could take that out (gestures). *We need to find them quickly.* Yeah but what about, yeah, good, is there boys in here too? *The front half is all girls and this half is boys.* Oh. *Right let's put that back now.* No I want to look at it. *We'll look later.* (flops back on the sofa, frustrated, sulks). *Why is it good to be with nanny?* (picks up pen) That's my pencil. *What do you do with your nanny that is good?* (looks at interviewer's paper and starts to write on his own paper, giggles). *What do you with nanny that's good?* (shrugs shoulders) I don't know. *Think of anything you do together?* I don't know. *Can't think of anything?* Watch television, play. *What games do you play?* It good, let me, it good (writes on interviewers paper). *What things do you play with nanny?* (continues writing)

Item 11
incongruent examples: examples of adjectives (whether or not in response to the adjective question) are entirely inconsistent with the intended characteristic being described, either because they contradict the characteristic being described or do not relate in any even indirect way to the characteristic being described, e.g. the relationship with Mom is loving because she lets me sit on her lap and smoke her cigarettes. This does not include weak, unconvincing or idealising examples

Example
(Dad-Happy) ***Specific time?*** *No.* ***Any time?*** *At 14 o'clock (raises voice).* ***What happened?*** *At 14 o'clock I was going to a football club.* ***Do it with dad?*** *I do it with the other boys.* ***Why happy?*** *It makes me feel a bit (pause) it makes me feel a bit (pause) good.* ***Why good?*** *Because it's good. It makes you strong.*

(Dad-good) *Why good?* Because Saturdays he takes me and my brother out. Somewhere far so we can see where he goes every day. *Where*? I don't know. *Does he take you to work?* No. *Countryside?* No. *Where is it?* Shops. *Example of when it felt good to be with him*? When he took us out very far to someone's house and we felt very good and we (pause) walked a bit and err nothing else. *When did it last happen?* Before. Don't know when? *Last week, a few months ago*? A few months ago.

Item 12
incoherent stories, narratives that do not make sense: it is extremely hard to follow what the child is saying; even 'filling in the gaps' leaves gross incongruities and oddities and inconsistencies; or there is a rambling quality to the story which never gets anywhere

Example
(Separation) ***Mom and dad longer than a day?*** *I've been away.* ***Where?*** *Uhm, to some places.* ***Without them?*** *Yes.* ***How long?*** *Well (pause) ten.* ***Ten days?*** *I was far away 10, 10 miles, just, they still could see it. Just step 1, and they were over there.* ***Yeah.*** *They stepped 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.* ***That's where you were?*** *I was there! And they were there!* ***Away?*** *And they were looking for me. I was lost and I couldn't find them for ages. But it was night, I couldn't find them still. I don't know where to find my house.* ***Didn't know?*** *No.*

Item 13
child becomes overwhelmed by sadness, fear, or other emotional discomfort related to previous upsetting events, even though affect may be appropriate it is extreme and not containable for the child, e.g. child cries a great deal when describing separation from or death of attachment figure which are not recent events .

- Examples of this can include when the child persistently refuses to think about the question, it seems to bring back difficult memories. The child may try to find ways to avoid the questions and/or the interview by going to the bathroom.

Item 14
child seems not to adopt and/or maintain the interviewer-interviewee context or norms of interviewer-interviewee roles; child may break out of interview mode to ask questions off task, e.g. personal or unrelated to the interview

Example
Good friends with my grandma (nods). Umm. Have you heard of the author Leon Garfield? ***Sorry?*** *Have you heard of the author Leon Garfield?* ***Yeah.*** *Well he's an author as well.*

Item 15
seeks physical contact with interviewer, moves toward interviewer: in the course of the interview the child makes physical contact with the interviewer or interviewer's objects (pens, handbag, etc); or the child moves closely to the interviewer so as to be invading his/her personal space

Example
Any cousins that you are especially friendly with? (*Swaps his pen with the interviewers, smiles) Not Shanay.* ***No.*** *She's a baby.* ***Is she, how old is she?*** *Ten.* ***Ten and you think she's a baby?*** *Yeah.* ***She's older than you.*** *Every time I go like that (touches the interviewers arm) she says granddad Ronaldo touched me.*

Item 16
child tries to set agenda, wilfully controlling pace or content of interview; treats the adult interviewer as if the child were the expert and the interviewer were the student

Example
(Mom-Cross) ***Can you think about them, for a little bit.*** *I'm not going to answer them.* ***Know difficult to answer them, but I'm interested in what you have to say.*** *Well you're not.* ***Why do you say that?*** *I'm bored.* ***You bored?*** *(No reaction).* **You're bored.** *Yeah, me (moves away from camera).* ***You?*** *Yeah.* ***How about I shout the questions to you over there.*** *No.* ***No.*** *You're not even going to shout the questions to me, you're not even going to tell me them.* ***Can't stop me asking them.*** *(Interrupting) that's the deal.*

Item 17
hyperaroused/agitated: general affect and engagement in the interview is 'hyper', agitated; child may keep moving about, fiddling with objects

Example
(Mom-Upset) ***Example?*** *No. I don't know (raises voice). I wanna see myself in the camera.* ***Feel?*** *I get worried.* ***Why?*** *Because I've done something wrong.* ***Mom feel?*** *Mom?* ***Mom feels?*** *(Child moves around room – knocks camera – still out of shot of camera – banging toys around) Um, I don't know.* ***Know what you've done?*** *Uhm (pause), no.* ***Not know?*** *No.* ***Fair?*** *Is not fair, is not fair.*

Item 18
shows scorn/contempt for interviewer (acts as if interviewer is stupid): child answers in a way that s/he expected the interviewer to know already, or acts as if the interview question is silly or stupid or irrelevant;

Example
Dad? *His name's Simon Garfield. Most people call him Gus after his dog.* ***Gus?*** *Yeah.* ***Why?*** *Hmm. I just tried to explain it to you, because, because when he was little, about my age he had a dog called Gus.*

Item 19
unable to elaborate on questions that tap mental states; is "at sea" re: mental states (self and other): loses track of interview and doesn't get the point of the interviewer's questions about the "why" questions concerning mental states; child may seem lost, out of his depth

Example
Separation
Is anybody not around anymore? (Drinks, no reaction) *Um?* What? *Anybody not around anymore?* (Drinks, no reaction). *Did you hear me?* (Drinks) no. *Say it again?* What? *Hear what I said?* No. *Anybody not around anymore?* Um, a boy. One of my family who live … I had two cats but one ran away is called Betty. *Is that a cat?* Yeah my cat, my two cats. *One ran away?* Yeah, now I got one, Bertie wasn't running away, was Betty. *Feel?* No just one. *One went away?* No it was she. *Feel?* Because he and she are brothers and sister. *Feel?* I didn't feel that I was just a baby. *Ok.* And my cat was looking out the window until his

sister has came back. *Anybody else gone?* No it's Tyrone. *Who's he?* Sometimes he doesn't hurt me but all of the time he hurts me. *Moved away?* No. *He's still around?* He's not my family.

Been away from parents? No. *Slept over?* No. *Stayed with grandparents?* Um. *No?* No I haven't. *School trip?* No. *Feel when you go to school?* Bored, it's boring if I'm a teacher and kids come to school I would say go home (gestures excitedly). *Would you?* Yeah. *Parents miss you when you go to school?* No I hate it when I go to school, kids hate it when they go to school. *Been out with your friends without mommy and daddy?* No I just hate it when …

Item 20
emotional states are not well modulated; there is turning "on and off" of affect or swinging to relative extremes: child shows both extreme bubbly/hyper/manic behavior as well as flat affect; the changes in affect are not gradual but as if by a switch (and can therefore come across as fake and ingenuine)

Example:
(Mom – Upset) ***What happens?*** *I don't know (serious face, looks away from interviewer), she just smacks me, or something.* ***When done wrong?*** *No, when I've done something cheeky (grinning).*. ***Like what?*** *Sneaking chocolates from cupboards (giggling).* ***Taking chocolates?*** *Like yesterday I took a snowman cake without asking (grinning).* ***What happened?*** *(Laughing).* ***Did she find out?*** *Yeah she found out that I took one (laughs)* ***Do?*** *She smacked me (laughs) cheeky, cheeky.* ***Cheeky a lot?*** *Sometimes (laughing). Oh (serious/pouty face – looking at interviewer – sighs heavily).*

Item 21
Open and convincing discussion of a range of feelings: the interview covers a range of feelings and the child is able to relate to all part of the interview; good and bad events and feelings are mentioned and the child is open to reporting events of a range of affects, not just neutral or positive or negative

Example
(Dad-Funny) *Example?* Well he can do really mad things like jumping up and down on the bed, fighting, wrestling stuff like that. *Example?* Before dad left on Easter day, I think it was, we just kept jumping up and down and wrestling with him. (How did it feel?) It felt good but I was feeling sad at that point because I knew he was going away

(Separation) *What's it like leaving friends behind when you move school? It* gets really sad but the next school I'm going on to is a boarding school so I don't have to keep moving around the place. *What does it feel like?* Sometimes it can get a bit lonely but I can stay where I am and visit them.

Item 22
examples supporting adjectives and of caregiving are recalled quickly, without protracted search or prevarication

Example
(Mom-Fun) Last week yeah, I was coming back in the car, from my Aunty going "la la la la la" (laughs) and when we were doing this woodwork I got from my Uncle Jerry, I was still going "la la la la la" (laughs). And my mom thought it was really funny (giggles) And she said no biscuits if you keep on going "la la la la la" (laughs). So I stopped (laughs). *So you had a laugh together?* (Nods smiling).

(Child Ill) My mommy lets me stay in bed, but I still go to my dad's house. *What does she do?* She takes my temperature, she gives me some Calpol. She hugs me a lot and she kisses me.

Item 23
conversational style is fluid and "goes somewhere": conversation is back and forth, reciprocal, mutual, and there is an exchange of information;

Example
(Dad-Sometimes horrible/Upset) *Example?* When I was out too late and I forgot, I was with my friends who are 12yr-olds cause I live next to Didsbury Park and I forgot to tell my mom and dad that I was at the park and they were looking for me but I was with friends. *Why horrible?* Because he told me off and he was very angry. What said? Just said "Why are you here, why didn't you come and tell mom and me?" and he was going on about it.

Item 24
child seems reflective and thoughtful: child takes the task seriously and tries hard to think of why behaviours and feelings occur; child is eager to help the interviewer understand his/her point of view

Example
(Mom-Upset) *Example?* Yah, I had to make healthy eating biscuit bars for school and she bought these books, recipe book and I was tired and horrible when I came back and I felt a bit ill and I wasn't paying much attention and she got angry with me and said "Oh fine Lucy, you have it your way, I spent ages to look for these books" and I felt sad and more depressed. […] *Why felt sad?* Cause I don't like people getting angry with me, I think. *Mom felt?* She felt angry but sad as well because she put a lot of effort into getting these books. *Why she got cross?* Because I wasn't paying much attention.

Item 25
child appears engaged and interested in his/her memories of relationship episodes: child takes time to think back to events that happened

Example
(Mom-Talk together) Um, (pause) um, I remember we got into a really interesting conversation. (Frowns) um (pause) it was about her wedding, she was telling me about what it was like and I was asking her things. Cos we got the wedding photographs out and I was asking her questions about who was the best man and everything and that was really nice (smiles). *When?* Yesterday. *Talk about things?* Sometimes I ask her about dad's dad who is dead now, I ask her about things before I was born and she tells me about my granny who was really nice, I like to think about that. *What else?* Things that we're going to do in the future, like what. *Future plans?* Yeah.

Item 26
Child verbalizes deep affection for parents: child expresses very positive feelings about parents and shows unequivocal love for them;

Example
(Mom- Love her) (can't think of second descriptor) I just love her […] You said you just love her. *Example?* When she, um, brought me a game that I wanted, and as well when she gave me a hug and a kiss when I was upset. *When did she buy the game?* Umm, around Christmas, no around my birthday. *In January?* Yeah when were you upset? When was I upset? I hurt my, when I hurt my knee and I had a scar and I had to go to the hospital, and she stayed with me, and so did my dad *When?* That was, (short pause) last year.
(Dad – I just love him as well) *Example?* Um, (short pause) yeah when he read one of his old books to me, yeah, and it was like a really long one and it was really good as well. *When?* A few months ago. *What about?* It was about, um, Arsenal, it was like a cartoon one. *One of his old books?* Yeah. *Dad support Arsenal?* Yeah. *Do you go to the football together?* Yeah.

(Mom- Like) I like being with my mom a lot. If erm I didn't have to go to school like Mondays and Tuesdays I would pick to stay with my mom and *So you like being with her?* Yeah.
(Dad – love being with him) Sometimes on Saturdays well he used to take me to his work place but now that I've got a brother he can't really take me anymore cos Ross is a bit too young to go to his work but not really and I love staying with my dad, every so often like Saturday and Sunday sometimes from the Friday he picks us up and we go to his house and we stay there for the weekend. But in the holidays or if my mom is going on holiday like for her anniversary or something maybe she'll let him look after us cos that's the person we like to go to.

Item 27
Shows immediate pleasure when asked to think about parents: immediate and clear smile on face when asked to think of examples to describe relationships with mother and father

Example
Relationship with mom? (Smiles) it's great being with my mom. *What else? Cosy. And? Cosy. When does it feel great to be with your mom? Every, when I'm, every when I'm with her all the time. Particular time?* When I haven't seen her for quite a bit of time cause she's always at work and sometimes I have to stay at my childminder's after school quite a lot or stay for tea and then I see my mom and then I think I'm glad to be with my mom. *What do?* Just hug her sometimes.

Item 28
Clear evidence of going to parent for emotional help/guidance/support, a specific example is given in which child was upset and sought comfort from parent

Example
(Child – Upset) Sometimes, me and my friend R. this was a few years ago, we had quite a big fight and we were both annoyed with each other […]*Tell parents?* I had a little bit of a cry, then we had a really long talk about it, […] *Mom and dad say?* They told me they thought that we were really good friends and that I should go and sort it out, cos if you carry on having fights and things you'll never have any friends, so you have to go and say you're sorry, they asked me what I had done to upset her, and I told them a few things and they were really helpful

Item 29
affect is appropriate to what is being described: regardless of what the content is (i.e. good or bad), the child's affect is neither too flat nor over-exuberant

Item 30
the child understands what is being asked for : child readily appreciates what the interview is about and understands the interviewer's focus on the emotional relationship and feelings and thoughts associated with it; there is a 'shared attention' in the interview; child is collaborative with interviewer; fills in gaps to provide explanation but does not overdo this

Example
(Dad-Upset) *You feel when he tells you off?* I feel annoyed with R., and I feel sorry for what I did and I feel that I want to try harder next time. *Dad feels?* I think he feels annoyed, he didn't want us to fight, he might be tired after a day's work and he doesn't want to have to stop the fight, he feels annoyed and cross. *Why?* Maybe cos he's tired really, he doesn't really want us to fight or anything, he doesn't like things like that, he wants us to be nice happy family, to work together.

Item 31
the child readily comes up with examples: the child is able to tap into a rich store of memories from which to choose vivid examples, examples concern emotionally salient experiences, they appear meaningful - neither bland nor trivial

Example
Child-Hurt) I have had a really major injury, I fell off a bike and cracked my head open […] my dad came and carried me home down the road […]. *What happened?* They laid me on the settee and then phoned my nana (she used to be a nurse), and she said if I passed out take me to the doctor, and I was really crying. *Mom and dad doing?* They were really worried, sort of standing over me and then I was sick, I was sick eight times in one day, I had a headache and eventually, they took me to casualty a few days later, they thought it was okay but they'd probably better check, and the doctor said I had recovered really well […].

(Death) *Pet?* My mom's granny, she had a budgie, I think she left it in her will that we take it and it was really old, and we went to S. and he was really really old. Went to S, came home and he was dead, and that was upsetting because he used to talk quite a lot and mom loved him cos he used to imitate perfectly her granny's laugh and her cough. Cough he was really good at. […] *Mom felt?* They were really upset, my mom cried that night […]

Item 32
child seems interested in the task in their non-verbal behaviour, e.g. makes and keeps eye contact, orientates body towards interviewer, gestures are related to narrative

Example
Mom-Kind) *Example?* (Maintains eye-contact) Well yesterday she was really kind of giving me these (pats knee) trousers because they were supposed to be for my birthday but instead she gave me them for a welcome home present. *Might get another present?* (Nods) So I might get erm, well hopefully for my birthday a pair of FX ones roller-blades. *How did she give you them?* (Looks up – thinking) She put them on the bed and said close your eyes and walk in and then there it was. *How did you feel?* I felt really jumpy, happy (smiles) cos I really wanted these ones (looks down at trousers).

Item 33
parents are described in believably mixed terms, some good, some bad aspects

Example
(Relationship with mom) *Feel when you're with her. Like I sometimes I feel happy that I've got someone to talk to. But sometimes I feel really angry, that she bugs me. Mixture? (Nods). Close? Yeah, like going up to the heath. We go up to the heath together*

(Relationship with dad) *Three words?* With my dad, with my dad, oh (smiles – looks around). We both try to be funny a lot (laughs). *Yeah.* Um (pause) we both prefer people to laugh at our jokes. […] And (pause) when he's angry I feel kind of scared.

Item 34
able to take another's perspective: child readily refers to how others think and feel in the course of the interview; this understanding helps the child to describe and explain events in a coherent way

Example
(Mom cross) Do you mean like mildly cross or really, really cross? *Whichever.* I had this bag full of stuff in my room for ages and I'd never bothered to unpack the stuff in it for ages, from holiday from a few weeks ago. She said like tidy your room as well, cos it got quite messy….so she got quite angry and she'll make me do things before she lets me do things that I enjoy. *Recently?* I still haven't done it yet, I don't think that happened quite recently. *Last time told off?* Well it was actually about the bag but I still haven't done it, she said that I should have done the bags before I went on our computer with my brother, so she told me to do my bag, but then she said oh just go on the computer she'll do it later. *You feel?* Sometimes feel a bit cross, cos I feel cross with myself, I feel why didn't I do that, I kind of want to do it for my own, but sometimes, I don't know, I don't feel like it. *Feel cross with mom or self?* It's both really cos I feel cross with my mom cos I feel like I'm confused cos I don't know why she's telling me off, then I figure out what she's trying to tell me, and then I know how she feels and then I'll try. *Know why at first ...mom feels?* I think she might feel sad cos she brought us up to be tidy and nice people, but we do things like that she gets annoyed cos she want us to be good.

(Dad fun) Its quite good fun being… my mom's a bit frail, and, (pause) sometimes I think it's more fun to be with my dad, cause I mean, he...sometimes I don't like being with my dad either, and I prefer to be with my mom, cause, um, my dad, sometimes when I bang my toe or something, he laughs, and I don't really like that. I think he's laugh…I know why he's laughing, he's laughing because he thinks it looks funny, what I did, but, um, I think, I may think I'm hurt and if he laughs at that then I feel a bit…it's a bit like he's hurting my feelings. (pause) and sometimes, sometimes, well, when I was learning how to ride a bike, um, we had the video camera, we were borrowing it, and he told me to drive, to steer into a bush (smiles) so he could film it, and I did. And he laughed, and I understood why he laughed, because it's meant to look funny. But I actually banged my knee on the wall, and I started crying, and um, he, kept on laughing, cause he thought it was funny, and I told him what had happened, and then he realized.

Item 35
Values accuracy: honesty in reporting relationship experiences: child works very hard to think of what it was that actually happened in the past; the child is keen to get the interviewer to be able to 'see' what happened and get a sense of what it was like; child does not make short cuts in describing and does not seem to skip over details

Example
Um, yeah. *Who?* Granddad John. […] *Remember?* Uh yeah, uh we visited him, he was in hospital, he was up in this hospital and he had all his machines around him, and um while we were at school, they said to us that he'd had a heart attack, my mom and dad said he'd had a heart attack and died. *Felt?* Felt quite sad, and me and my sister was crying. *Do?* Um, we asked if, um, (pause) we'd asked if he really died (rubs eyes). They said 'We're not joking'. And then we started crying and then we asked if we could go and see him. They said no coz he's like um where they um are in the place where they take them, I don't know where that is. But. *The mortuary maybe?* Yeah. *They said no?* Coz um they probably put him in the mortuary. *By yourself when crying?* No, we were all in the car, um like on the way home from school. Coz we had to take this girl home. Um, we took her home, and then they told us. And (rubbing eye) we were cuddling our parents. *Felt?* It (pause) it was sad because um (long pause) he was a very (pause) he was very um nice to us when we slept round our Nan's house, and he was very fun to be with coz he'd play um, if I was on my own with him, we'd probably play cards or dominoes, and things like that.

Item 36
For each question, child pursues "story line" with confidence and determination (narrative is shaped by overall affective theme which makes the narrative interesting and engaging to the listener)

Example
(Mother – Feels safe with her) Because she's a grownup and sometimes I don't feel safe without a grownup and I know no one will hurt me when I'm with my mom. Example? When I was in Brazil, cause my mom is from Brazil, but she speaks very good English cause she's lived here all her life, cause they said in the place where we went that you should keep safe because people can rob you and stuff and I felt safe with my mom.

Item 37
can describe negative emotional experiences with relative clarity (sufficient detail but also succinct); even very difficult interactions or patterns can be discussed with interest and in a convincing way

Example
(Dad-Stern) *Example?* When I think, I can't remember what I'd done, my mom was telling me off and I'd had enough and I started to walk away and he said don't walk away from your mom, and then he was really stern. *Say anything else?* Afterwards he spoke to me, and he was quite stern then but he'd sort of calmed down a bit. *Say?* He said you shouldn't have done that, do you understand what I'm saying, do you know what you've done wrong…I like the way he talks to me cos I don't like it when people shout. *He talks to you?* He sometimes shouts a bit and then he calms down and comes and talks to me and I like that. Feel? It became more clear and I understood it and it was good.

Item 38
child appreciates that s/he needs the help of others and makes reference to this (in matter of fact manner); does not just present competencies or inadequacies

Example
(Child-Upset) *She helps you with homework?* Yeah say I'm stuck on a question, I um, I ask her to help me, and she like reads the text out for me, and it really helps me a lot so.

Item 39
convincing examples of parents soothing child: concrete and believable examples of the parent addressing/soothing/satisfying/comforting the child when the child was in distress or was otherwise upset

Example
(Child-Upset) And another time some boys were teasing me coz I had a cold and I had to keep going to get some tissues coz there were bogeys streaming out my nose. And I asked him [dad] about it, and he said when they make fun of you when you got a cold, make fun of them when they got a cold (laughs), as a sort of joke, and that made me feel better.[…]*And did you do that?* Yeah (laughs) except he had a really stupid haircut. And I said "oh who cut your hair? Did you do it yourself?" sort of thing (smiles). And then he realized that I was getting him back and that it was wrong to call me names and that. And he stopped doing it.

Item 40
Has explanations for self and others' behaviour (running commentary): child goes through the interview with constant reference to reasons for others' behavior and own behavior; no additional prompts are needed by the interviewer to get the child to report why things happened or why individuals felt a certain way

Example
(Dad-Upset) *You feel when he tells you off?* I feel annoyed with R. [sibling], and I feel sorry for what I did and I feel that I want to try harder next time. *Dad feels?* I think he feels annoyed, he didn't want us to fight, he might be tired after a day's work and he doesn't want to have to stop the fight, he feels annoyed and cross. *Why?* Maybe cos he's tired really, he doesn't really want us to fight or anything, he doesn't like things like that, he wants us to be nice happy family, to work together.

Item 41
Child's body language or gestures indicate awkwardness about emotionally loaded subjects

Example
Mom/Dad-Upset) *Happens?* She shouts at me. *Shouts?* Hm-hmm. That's it. *Usually say?* Stop doing that or I'll … you. (Turns away to look at wall with back partially facing interviewer). *Feel?* I don't do it again. *Why she shouts?* Coz I've been annoying her. *Fair?* Ya (nods). *Know why?* Ya (nods). (Later in interview - Child is facing wall directly – fiddling with posters on wall). *Dad-Upset?* He just tells me off.

Item 42
The child gives general assurances to the interviewer that his/her relationships with parents (e.g. "it's just normal")

Example
(Mom-Quite nice) *Three words?* (Playing with strand of hair – long pause) um, quite nice to be with mom. And um (pause) oh (looks away from interviewer). *Difficult.* Hmm-hmm (in agreement). *What else?* (Long pause) um, it's um (pause) I don't know (shakes head) I can't think. *Quite nice – example?* It just does. *Sorry?* Um I just do like being with my mom. *Like being with her?* Yeah. *Specific time?* Um (shakes head) just like (grimaces) all the time. *Not a specific time?* No (playing with hair) not really. *Think of another two words?* No. *What's it like?* It's just (long pause) it is like (pause) normal (shrugs). *Normal?* Yeah.

Mom - Normal *Example?* Um (pause) just normal. Like, like what normal families do. *Example?* Like they go to the park, they talk together. They (pause) they do just the normal. *Just being together?* Yeah.

Item 43
The descriptions of what happens with the parents seem full of superficialities and platitudes, apparently avoiding specific descriptions of interactions (e.g. "it is always fun", "she is a great mother")

- *The child does not give any examples to support descriptors and there is lack of substance; this should be give a high score if it happens repeatedly*

Example
(Dad-Fun) *Word to describe dad?* It's fun. *Example?* (Long pause) uh (long pause, shuffling in chair, playing with shoes). *Can you think of a time?* No. *Another descriptor?* (Long pause) no (shakes head).

Item 44
Very disrespectful of the parent and the parent's role (without intense anger), e.g. "she (mother) is completely useless"

Example
(Separation) *Feel when you see your dad again?* Happy. *Mom?* Bored. Really bored. Feel sick. I'm dead pleased when I see my dad. I'm dead bored when I see my mom. I have to pretend that I'm happy to see her.

Item 45
The child describes negative events (e.g. getting hurt) as though they are no problem, that they are unaffected

Example
(Dad-Upset) (Child turned with back facing interviewer – child is facing wall directly – fiddling with posters on wall). *Dad-Upset?* He just tells me off. He goes 'Sometimes you can be a real doughnut' and I say. *Feel?* Fine (shrugs), I don't mind. I've been called worse names. *Why he does that?* He's annoyed. *Know why?* Ya. *Fair?* Ya

Item 46
The coder feels that the child's response seems false, unconvincing (e.g. "I really like being with my Mom" is accompanied by a sad look and no example)

Example
(Dad-Like being with him) (looks very nervous and unhappy) *Three words?* Same as my mom. *Word?* Like being with him. *What else?* (Long pause) Don't really know (shakes head – grimaces) no. *What like?* (Pause) don't know (shrugs).

Item 47
The child offers only 1-2 adjectives for the relationship with at least one of the parents

Item 48
Examples and adjectives tend to be very 'concrete': physical descriptions ("he does lots of DIY"), or factual, (superficial) list of events (the child mentions trips with parents, with no elaboration)

- *DIY stands for "Do It Yourself." Some examples of this are fixing things around the house or decorating the house#*

- Concrete refers to the child providing only rudimentary episode for the relationship with their parents. For example, the child says "Mom's really nice" and to support this he/she says "she takes me shopping."
- The description of a behaviour that is given is not associated to the relationship between the parent and the child. The examples or adjectives provided do not show any interaction between the parent and child. The activity described does not relate to the child, for example the child says, "Mom works a lot".

Example
(Mom – Fun)Example? When she's not doing any work. And when she's not hoovering. OK. And when it's after dinner and we, after dinner, my mom and me sometimes play Monopoly. Example? (Shakes head). So just generally when she's not too busy, you play monopoly? (Nods).

(Mom- nice) I go, I go lots of places with her. *Where?* Sweetshops to buy some sweets. *Last time?* Umm, I don't really know. A few days ago or weeks ago? (sucking thumb) I think it was weeks ago.

(Mom – Takes me to big places)Other words? Um (pause) I like it when she takes me to a big places (shakes legs), like a fun place. Last time? Legoland. That was about three years ago. And World of Adventures I've been there four years ago. Recently? Um (pause – pulls on shirt) well I've been to quite a lot of places. Any ones in particular? I've been to (counting on fingers) Legoland, World of Adventure, Toys 'R Us, Sports Division, and (pause) shopping centers and (pause) um toy shops and sweet shops and that's all. Seven things.

Item 49
There are gaps before most answers, during which the child seems to have trouble thinking of anything to say

Example
(Mom-Upset) *What happens when mom gets upset with you?* (No response –playing with back of shoes). *Last time?* No. *Does she ever get upset with you?* Sometimes, now and again, not really all the time. *Example?* (Long pause) I don't know. *Last time?* Uh (long pause – looks up) no.

Item 50
Child avoids eye contact with the interviewer through most of the interview

Item 51
Child does not show interest in or awareness of the thoughts or feelings of his parents (e.g. that they may get angry or worried)

Example:
(Mom/Dad-Upset) *What happens?* Sometimes I stay in my room. *Uh huh*. That's it. *What does she say?* 'Go to your room'. *Last time?* (Shakes head). *Remember?* (Shakes head). *No?* (Shakes head). *Recently or long time ago?* A long time ago. *What happened?* I can't remember. *Feel?* I feel sad. That's it. *Mom feels?* (Pause – shrugs) I don't know. *Don't know?* (Pause - shakes head) No. *Why does she send you to your room?* So I won't play anything. *Uh-huh.* (Grimaces) I don't know anything else. *Anything else?* (Shakes head). *No?* (Shakes head). *Why?* (Shakes head). *Why?* (Shakes head). *Do you get upset?* (Nods). *What does dad do when he's upset?* He just sends me to my room. *Just like mom?* (Nods). *Feel?* Sad. *Anything else?* (Shakes head). *Dad feels?* I dunno either. *Why he send you to your room?* I don't know (long pause). *Why does he tell you off?* (Shakes head). *Fair?* (Nods). *You do.*

Item 52
Descriptions of relationships and events are empty of content or very bland (e.g. "It's OK", "Like everyone else..")

- *This is often observed at least one or twice in any interview. Give this item a high rating, only if it represents the pervasive style of the child throughout the interview.*

Example
(Mother – Quite Nice) *Why?* Just does, I like being with my mom. *Special time?* All the time, not really. *Another word?* Don't know, Can't think. *Another 2 words?* No, like to be with her, it's normal. *Normal?* Normal to be with her.

(Dad- ok) *Time when you felt ok being with your dad?* Not really. *How about when you saw him yesterday?* It was just alright, ok, alright.

Item 53
The child seems unemotional even about subjects which would usually be enjoyable or upsetting.

Example
(Separation) *Write to your parents while away?* Yeah, but … *Say?* I said 'Have a nice time.' *Had they gone on holiday also?* No. *Like when you got back?* It was funny because, it was strange because, I had been in a new bedroom, at Butlins. But then when I came home then it was all strange colors, as I was used to the ones in Butlins. *What else was it like?* Um, I don't know, strange. *Like seeing mom and dad?* Um, I don't know. Nothing.

Item 54
child seems bored or resentful about the interview (e.g. sulky), appears to want to get the interview over, or is irritated about being asked personal questions

Example
(Dad) *Three words dad?* Er, nothing really, 'cos I never get to really see my dad really. *When?* Don't really think about him. *I don't believe you.* Can we skip this? It's getting kinda boring.

Item 55
the child shows non-verbal signs of discomfiture, e.g. often plays with hair, rubs eyes, while looking anxious

Example
(Child-Ill) *What happens?* What? *When you're ill?* (Leans back in chair and starts rubbing eyes) Can't remember it's happened to me. *Never been ill?* No. *Must be very healthy.* (Child frowns and continues to rub eyes). *Find questions hard?* Yes. *Can I ask you a few more questions?* No, they'll probably be as hard.

Item 56
child does not help the interviewer by volunteering information; interviewer has to solicit all information directly and explicitly ("pulling teeth")

Example
(Mom-Upset) *What happens?* Nothing. *Ever get upset?* (Shakes head). *Can't think of a time she was upset?* No. *Or cross?* No. *Last time you did something she thought was naughty?* Um (pause) I don't know. *Naughty things you might do?* Beat up my brother. *Beat brother?* Yeah. *Younger than you?* Yeah. *Brother's age?* Four. *Do to him?* Um, punch him. *Punch him?* Yeah. *Mom do?* Then she'd tell me off. *Say?* I don't know. Shouldn't do that. *What?* Shouldn't do that. *Might say?* 'You shouldn't do that'. *You say?* Um, I'd just go outside. (Pause). Sometimes I just go in my room. *Happens then?* Nothing. *By yourself?* Yeah. *Come out?* When sometimes, when I don't know. Sometimes I go out and watch TV after. *Who with?* My brother. *Where would mom be?* She might be making dinner or something.

Item 57
child says he or she cannot remember events or examples

Example
(Mom – Happy) Example? (Pause). No, I can't really. I can't remember. Example? I can't…

(Mom – Hungry)…When? I've forgotten….

(Mom – upset) Can't remember. Say? Can't remember. Last time? No, not really…

Item 58
Child avoids talking about attachment aspects of experience, e.g. instead of focusing on interactions with attachment figure focuses on impersonal aspects (e.g. child describes having meal with parent and only talks about the food).

Example
(Mom) *Word to describe relationship.* No, I don't know any. *Last time with mom?* Yesterday. *What happened?* I was playing football outside. *Mom there?* No. *Like without your mom?* Um (pause). *Last time with mom?* Um (pause) I don't know. A bit yesterday, when we had dinner. *Had for dinner?* Um, had (pause – smiles) um some um some vegetables. *Fish balls.* Vegetables. *Anything else?* And some sauce. *Who was with you?* My brother and my sister. *Mom?* What? *With you?* Yeah. *Dad?* No, he was at work.

Feel like all together for dinner? Eating food. *Everyone eat all their food?* Yeah. *Eat all yours?* Yeah. *With mom this morning?* Yeah, I saw her this morning. *What was happening?* Had my breakfast. *Mom having breakfast too?* No she doesn't have breakfast.

Item 59
child appears to assume that he/she is able to deal with most things by him/herself

Example
(Child hurt) ***Time?*** I'd badly grazed my knee, I slipped on the last step at school under the tap which was about to be switched on. ***Painful?*** Yes it got very stiff ***Do?*** I just got up ***Help?*** I just left it.

OR

(Mom-Upset) She shouts at me. *How do you feel?* Scared. *When you are scared what do you do with those feelings?* Keep them to myself. *Do they come out in any way?* No.

Item 60
child's responses appear to be the least possible in answer to question, not elaborated

Example
(Dad-Upset) *What happens?* He doesn't. *Doesn't get angry?* Just sometimes. *What happens?* I forgot. *Remember how you feel?* (Shrugs) No. *He feels?* (Throws head back). No. *Fair?* Yes. *Know what you've done wrong?* Yes. *Remember last time?* No.

Item 61
The interview is unusually long (more than 40 minutes, not accounted for by interruptions, additional caregivers)

Item 62
The interviewer finds it difficult to keep the interview moving and on track, because EITHER replies are vague and confused, OR the child gives extra or detailed examples of bad or wrong things happening

Example
N.B. child's response to this question is 9 minutes long – keeps giving negative examples
(Child-Ill) Well, coz I live with my mom, my mom just like (pause) um, if I'm, I mean I'm usually ill at night, and it's usually a one day off, if I just throw up in the night, but sometimes my mom has to ring up the next day to her work, and say 'I can't come cos Georgia's ill', and then she has to ring up school. […]once it was really funny when (smiles), my mom is petrified of my headmistress, because I had this massive abscess, and my face was like a football, it was out here (demonstrating with hand), and my mom took me to school and the headmistress barked at her 'take her out of school immediately' it was like 'ring your dentist right now' […]And then um, I think, probably, last time I went to hospital is when I cracked my eyebrow open. *What happened?* The scar there (pointing to eyebrow) I fell out of bed. I know it sounds a bit stupid but there was this big side-board, like that and it was really sharp corner, and I just fell out of bed, and I went 'Whack' on the corner of it. […] and she didn't even take me to hospital until 10 o'clock the next morning. […]

Item 63
The child expresses anger or sadness that is either out of proportion to the events described, or is the predominant feeling expressed in the interview as a whole

Example
N.B. child keeps referring to how much he dislikes his father for most questions, giving examples of negative events concerning father.
(Child-Hit) Yes much, not with my mom but with my dad. He actually threatened me one day, not with a weapon, just with his hand. It's very comfortable this chair. *Actually hit you?* Hit me. *A lot?* Yeah too much. And I have bruises all over my leg and up my back. He'd give me the stick and that was really painful and I'd get really red legs and the belt that was really painful […]. *How felt?* Very unhappy and sad I felt like I was going to kill my dad I really wanted to get hold of his neck but obviously I couldn't do that because I'd get put away and charged so that's why I didn't want to do it. But if they wasn't allowed to charge a child or anything, I would have done it (nodding) I would have.

Item 64

The child wants the interviewer to agree with his/her view of situations being described, by expressing indignation or unhappiness (e.g. enlisting sympathy and support)

Example
(Mom-Annoying) When she's like, […], feel sad inside like she's not a normal parent, can't think of the words she's like, and you know like. Erm why can't she be like normal parent at times? You know. Why does she have to shout at me more times than once in a day, you know when it's not really my fault? […] She's all nicey-nice and she's all positive about me, she's a nice person, But she can get angry and then it's totally different with you and you can't imagine it really because it's amazing your changing from one to another so violently. Do you know what I mean? Like violently and then shuuu (moving arms as if a switch) like that, you know. I really love them inside very much but I really hate it when she is like this. I mean why is it happening to me? […]

Item 65
Affect tends to be unvarying and negative through the interview – e.g. vague, angry, miserable, annoyed, anxious.

Example
(Dad cross)
Example? This is sort of with my mom and my Dad, when we were coming back from school, a boy called Thaddeus kept tickling me and I went like that (throws head back) and I banged his nose and he had a really bad nose bleed and I didn't know it, and I thought it was partly his fault cause he was tickling me and my Mom was really cross, gave me a piece of toast and water for my supper and then she said I don't want to see you again till bedtime and I went outside and sat on the doorstep cos I was really cross and then I thought I wonder what she'll do when she finds out where I am, so I went back inside, so I went back inside and went up to my room, sat there listening to a tape and she called me down and I couldn't hear her cos the tape was on, and she got really angry, stood in middle of room. And she got really really angry with me. And it went on for a month and a half, I had to keep sitting in the front all the time, it was really annoying. I thought why is it going on for such a long time… I heard her phoning up Thaddeus's mom and she was like "is he alright is it still hurting". Then I heard her say "I'll give him bread and water"…he was getting all the support and fuss and I just got big punishment for something that wasn't really that serious

Can you remember a time when your dad tell you off specifically? When I was little, and I drew the curtains, and the curtain rail fell off and smashed a lamp, my Dad was really angry and we didn't get any pocket money for a month, no TV for a week, me and my sister were quite upset, we talked to each other about it…now my sister's like get out of my room, like good riddance, I've gone to boarding school…she doesn't really like me anymore cos she's gone off to boarding school and has made tons of new friends. I see her and she's like 'oh I just remembered my brother'…

Specific time when you didn't think it was fair your dad got cross with you?) when he goes down stairs. and I say horrible things about him, say I'll never speak to him again, he comes up and smacks me again and then I burst out crying again, and then he comes back about 10 minutes later and I haven't calmed down and and he says, "shut up or I'm going to do something really nasty" and sometimes I don't understand why it keeps going on and on.

(Child upset)
Example? it's really annoying in swim lessons sometimes, cos he said, "Remember in year 4 when we went up to Phil's office and you went home and told your Mom that 'Mark's picking on me, Mark's picking on me' *(imitates teacher's voice and repeats phrase*) and he said it in a really horrible creepy voice and he said it as if he was trying to tease me. It's really annoying. And he's often being really horrible and rude. And he was like "Peter thinks I'm a big ogre" and "once it's done it's final".

Item 66
The examples offered in answer to one question seem to involve several negative aspects, e.g. the child is asked for an example of being separated, and brings in being ill, parent being upset with him, etc,

Example
(Child-Touched) Yes. *What?* I got smacked in the bum and everything, hit here (pointing to side of head). But nowhere else. *Touched other places?* Yeah, on my legs. But my dad has been hit by me in a private place, he was trying to hit me and I just kicked him and he was in real agony and I had time then to ring up the cops. And I was really embarrassed in my old school in year one because he tried to snub my mom in front of the whole class.

Item 67
The child tends to describe most relationships in caregiving terms, e.g. teachers, friends' parents, are described as looking after or failing to do so

- everyone the child interacts with or meets is assessed as a potential caregiver; this is the dimension of every relationship that the child focuses on throughout the interview

Example
(Can you give me an example of why you said it's secretive to be with mom?)… My swim teacher doesn't like me very much…I was just looking at the boy next to me, well he wasn't really doing anything naughty and the swimming teacher said hey you were talking and I was like no I wasn't!... and he gave me a sanction sheet, which is a sheet you have to write out a whole page on why you were naughty, how it affected the class and I took it home and I was like, I'm not going to write this out, this is really unfair and I went home and told my mom…(Mom say?) She was quite cross really, cos it's happened ever since I've been in school, he's not been particularly nice to me. She stood up for me [when I went to speak to the Headmaster about it], she said "Mark's really gone too far; I don't think it's very fair".

(What happens when you are ill?) I go downstairs and tell my Mom and say I've got a headache or a tummy ache and sometimes she's quite cross and won't really listen when we were in Wales. I felt really ill and had a really bad tummy ache and she was like 'Oh, stop moaning' she went downstairs to have breakfast and I was still upstairs in bed in pain, she said she couldn't give me any medicine cos I'll throw up and just then I did.

Something really awful at my old school, I felt really ill, I had a really bad headache and a really bad tummy ache. And I said PLEASE can you take my temperature, I feel really bad? And she said 'in a minute.' (*he imitates voice of teacher*)…They never took it and I was really cross. Oh PLEASE it really hurts me, 'in a minute.' And I went home feeling really ill and my dad said you have a really high temperature it's 102.5. And I said, "oh crikey, why didn't the teachers take it at school?"

Item 68
The child holds the floor and makes it hard for the interviewer to find space, EITHER child gives multiple or long examples, OR the child fills gaps with 'place-holding noises', such as "mmm… I mean... well...", in other words seems to be intending to say something but does not come up with fully-formed ideas

Example
(Dad-Upset) ***(how did you feel?)*** Erm I can't really remember um (pause) um, I can't really remember, um, um probably um (pause) oh yeah, maybe a little bit embarrassed little bit not really annoyed a little bit annoying you know coz I wanted him to come up with me not annoyed but like waiting-ish you know what I mean so[…]

Item 69
The child addresses the topic, but gives EITHER over-detailed or multiple examples, OR wanders off from the story when anxiety-provoking situations are being discussed

Example:
Parents-don't love you?
Erm erm no not really. Could have been … but maybe not now um, (looks up) there's a crack in the ceiling oh, the cleaner must have cracked it. Anyway … somebody … ***It's ok.*** What was it, sorry? ***Felt unloved***? No but erm its not coz I don't want to think about it. Um one time I think we all like I can't remember maybe when I was younger when I didn't understand but I really can't remember so you know. ***It's ok.*** sadly not for a long time really so you know.

Item 70
Examples are told in an overly dramatic way, histrionic or drawn out

Example
(Child-Hurt)
What happens when you hurt yourself? In school you mean. ***What happens?*** Do I have to do the hurt way coz I have not experienced that for a long time actually but anyway it's good that I haven't. ***Is good.*** Erm coz when I was little I used to like fall over quite a bit and make a hole in my tights so yeah I remember that…I think I just got up and rubbed my knee a lot of the time (slapped herself on cheek) but

it's alright now you know what I mean I just like wake myself rubbed it better and cared for myself up and forget about it you know what I mean coz I'm not that easy to forget about things in the sense I think my friends try it hard to not upset me, like that but I feel it quite hard to really like that because I can take things like I do at home. Erm this is much better then therapy (laughs) without somebody questioning me all the time you know like all constantly and weird and like minutes of silence. Hate it, absolutely hate it, hate it. I hate her.

Item 71
There is an impression that the child needs looking after, EITHER the child says that he/she is not being looked after properly, OR there is a feeling of neediness communicated by the way in which events are described (the child may seem sad or lost)

(Dad – Cross)

Time? Today, I kept on doing handstands and sometimes I slipped and fell on my new dress and he goes "you can get grass marks and I did it again and banged my head and he goes "Hannah you'll get stains" my head hurt and I cried and he goes "look Hannah your dress is getting filthy" and I go "its not the dress that's hurt its my head" and then I went and sat down and he goes "Hannah get up" before he said "Don't get your dress muddy or I'll make you go home and change it" and I didn't think that it would get dirty under the tree and he goes "Hannah you've got dirt on your bum go back home and change" so I had to go. *What he say when you said head hurts?* Nothing. *Feel?* Sad cos my head hurt and he wasn't paying any attention to that he was paying attention to my dress.

(Child hurt)
Most of the time I get up but sometimes it really hurts, one time if ell off a net that you can climb up and I fell off it and is sort of went head first but then I didn't really sprained my ankle. *At home?* In park *Happened?* It really hurt but again my dad didn't really take much notice. I've fallen down stair quite a few times but not hurt myself badly *Help?* My mom or my dad ask if ok

Item 72
Child implies blame to others (notably the parents) for bad things happening, OR expects that things will always be bad

Example:
(Mom-Upset) ***Feel when mom gets cross?*** Upset inside but normally I'm quite a sensitive person like erm upset because when she's like, you know, coz off she's goes all red and I'm worried about her heart, I'm so used to it now and like she goes (makes noise) you know what I mean? And it's her fault it's not my fault and it's normally not my fault. But if it was my fault, I can't coz I don't think of it coz it just doesn't apply to me so I don't think of it, you know. ***Mom feels?*** It's quite obvious from her face angry, frustrated, annoyed maybe, you know, upset with me and angry and trying to let all that anger out, grrr, you know it's like 'Why are you doing this?' coz its normally not my fault I can't think of it

Item 73
The listener cannot easily understand or follow what the child is saying

Example:
(Mom-Funny) *Why funny?* Makes people laugh. *Who?* Rita. *What does she do?* Makes jokes and things. *Last time?* Yesterday she just kept dancing dancing. *To music?* Yeah. *Party?* Yeah it was a party, and she made this chip. But she cut it out as a star chip. Then you put it in and she cooked it. Then someone got a star chip that was the birthday girl. And she ate it.

Item 74
The interview is consistently bogged down, (e.g. the interviewer is flooded with irrelevant details, the child's answers keep wondering from the topic) and the interview ends up a little bit like treacle

Example:
(Child separation)
(Is there anyone that you cared about that isn't around anymore?) (pause) no but you know what my cousin called Ethan had a hole in his heart. He was in hospital, and he had all these tubes in him, and he had a stitch, they cut his body right open, from here and stitched it ***(is he a baby)*** he's only about eight months really cute (…) ***(Ok, um)*** but when I'm fifteen, he'll be eight (…), coz he was eight months, and I'm eight, but when I'm fifteen, he'll be eight so I'm about five, and I said to her can I baby sit him, when he was a baby, and she said 'guess what, just think this in your head', and I said 'oh my god, I'll be fifteen,

and he'll be eight, I can't baby sit when I'm baby, he's a baby.' And she said 'don't worry'. (***maybe you can baby sit for someone else***) Yeah, a baby. ***(anyone else who moved away that you don't get to see anymore)*** don't get to see my old teacher anymore…
(can you tell me about when your dad moved out) anyway he didn't move out, we moved out … in the morning I was so upset … And every morning my daddy and mommy would come and this time only my daddy came and I said 'why isn't mommy coming in?' and he said we're splitting up and I didn't understand so they said well we don't love each other anymore and my daddy found a new girlfriend and daddy didn't tell mommy. And also at Christmas time, and I forgot completely about it, and I felt this heavy thing on my foot and I woke up, and there was this enormous stocking at the end of my bed and I was going (shows shocked face) so I stayed until I said, 'mommy there's a stocking at the end of my bed' and I was like pulling everything out and then there at the bottom was this lovely vest and I saw all these nut crackers, and I was going like (imitating cracking nuts with teeth) trying to bite them and there were loads of oranges and then when we got downstairs, I … all my presents. ***(feel when you had to move to the new place with mom)*** really sad

Item 75
A few examples are offered in answer to several questions, the child seems to have difficulty in remembering clearly and tries to go back to previously described events

(Mom – upset)
Happens? She like says she's got to stay in bed for quite a long time and. *You have to stay in bed?* Yeah. Well, I don't, I don't mind. *Don't mind?* Because on my way to my bedroom I was collecting toys. So, on the way there, so I can play in my room

(Dad – same?)
Second word? (Long pause – looking away). *Hmm?* I don't know any other words. It's just the same as my mom. *Example?* When I go shopping it's the same.

(Dad – upset)
Happens? He does the same thing. *He tells you to go to your bed?* Yeah. And I do the same thing with most of my toys. …

Item 76
The people or events are described at length but despite this, the picture remains vague

Example
(Dad – close)
But when he's like erm angry and shouts, then I like, in a way get emotional maybe sometimes, and erm gets more upsetting in a way coz erm he's like closer to me in that way, so it's, I'm like, more surprised and erm that's it. I get, and then sometimes, this is the last one probably, erm he threatens to like, a very few times he used to do it a but he never actually did it and he just like went like that, and he never actually did it and he plays around with me more and he's more smiley. I feel better about him looks wise you know what I mean, coz he's like in his forties and my mom's fifty one I don't really like, sorry, but I don't really like how my mom looks. Erm I think she looks old and all the other moms look young and their probably (…) you know and she's quite old for a parent of my age and my dad is younger and I don't really like his tummy. Me and my mom are trying to get him down that when we stick together and help through really, and that's when we're together and dad and Adam are like all meat and chunky. We got him a tummy cruncher for father's day and I also gave him a present later he was probably depressed inside and then I gave him a nicer one which was a booklet with a little floppy ruler and a notepad, open it and its got a notepad with papers inside, for all his meetings and it folds up and its silver and erm I think when we talk about things, like grown up things, and you know like, like, like you know in Jewish we go to the (…) and its very pure and you all have your own little room and this lady doesn't see you at all coz we visited there as a trip just the girls, and we didn't see anybody of course and erm and we just saw the little pool and this woman came, pregnant straight after, because she couldn't have the baby, and then her doctor said she couldn't go in the water she was allergic or something to it and the lady persuaded her said it was fine and she went in the water and the lady went in with the swimming costume but didn't really look at her you know just and reported her three weeks later she was pregnant. And I talked to her about going to her have you ever gone to a (…) coz there's a separate men's one and there's puberty and stuff like that and can I just say I'm all shy and I get a bit funny and tinckly I just wanted to share that with you. ***(can you think of a time when you felt specially close to him)*** Erm all the time really when I cuddle up to him, this is a hard one there are lots of times buts its gone a bit when he kisses me goodnight or sometimes he (…) a bit coz he listens to mommy but he normally listens to me and he does it and when (…) hedgehog

but a hedgehog is a bit more furrier but… when he's there and he's joyful trying to do things for me but he does tell me off a few times like last night I had to go upstairs and get (…) s bit like I said (laughs)

Item 77
The child speaks as if lost in the narrative, e.g. EITHER as though complaining to or arguing with the parent, OR as though so caught up in what is remembered that he/she cannot take any perspective

Example:
(Dad-Awful) It's kind of rewarding because I like spending time with him and when I do go it's actually, sometimes it's awful, sometimes its good but it's rewarding most of the times. *Why awful?* Because last Monday I went all he did was sit at the side of the room and he didn't pay any attention to me and then step sister had to go outside, it was so awful. "I come here to see you and all you do is sit down all day" some attention and what was the point in me coming and he asked "do you want me to take you home?" and I was like "no" but what's the point, he just shouted at me, he just kinda said "do you want me to take you home", "I don't like it when you nag like that" I don't like it when he does that. *Father feels?* No response (shrugs).

Item 78
Interviewer has to supply much of the organisation to the interaction in order for the child to stay on track (e.g. prompting for information or clarification, reminding the child of the question, or persuading him/her to move onto another subject)

Example
What happens when dad gets cross with you or tells you of? shouts a bit and has like a deep voice and you know, I feel under pressure so I do it obviously and that's really what happens he's got a deeper voice so shouting is not really what happens. I can't do it coz I haven't got the voice, like men have obviously got different voices so when they get older the thing that goes up there in their throat, I have no idea how it gets there. And erm and then like they're not he is shouting a little bit, not as much as mom obviously, because of the deeper voice it makes it louder. ***last time he got cross?*** Last night erm yesterday, the day before, the day before, the day before ***let's look at last night for example how did you feel?***

Item 79
The child has difficulties in focusing on and answering the question (e.g. the child appears to have difficulty in finding words; child has difficulty in expressing an idea)

Example:
(Describe relationship with mom, three words)
I think she is quite annoying but I don't want to put it as one coz it's a bit too (large sigh) can't think of the word, hatredish. And I'm not I don't really inside think I'm like that. I don't really feel like that sometimes when she's a bit like that. I don't really get annoyed but it puts me down and makes me feel upset inside and I'm like when she's shouting at me I get upset but I'm used to it, and then I sometimes I think she's not like a normal parent erm coz it's all happening to me and I don't really have time to think but like (coughs) she's like (laughs) *That's great.* When she's like, I don't do this most of the, I don't draw … toward me, shut up…, can't think of the words she's like…

Item 80
The child has great difficulty in thinking about experiences with the caregivers

Example
(Mom-Upset) ***What happens?*** Okay, so it's when my mom gets cross (frowns) what happens. Erm well it depends what it's in ***if you done something wrong*** It depends on what wrongs I've been doing. ***(Last time)*** I can't I've got a hole in my head. Sorry I've done it loads of times and I try to think of things. Not necessarily sad things, happy things or quiz games or whatever. ***A time it's happened?*** I can't think of it sorry it's just too hard. It's really hard for me and it's hard for you coz your trying to think what to do and it's like jam.

CAQ Instructions

1. Watch each interview along with its verbatim transcript

2. Make sure the 80 CAQ items cards (see Appendix 1) have been cut out individually. After watching the video, read each of the 80 items cards and place them in three piles (most characteristic, neutral, and most uncharacteristic of the child).

   When sorting each card keep the following questions in mind:
   - **Would you use this as a characteristic feature of the child?**
   - **Think of describing child to someone who doesn't know him/her?**
   - **Which items most or least characteristic of the child?**

3. Sort the piled items again using the scale provided below (Figure 1) ranging from -3 (most uncharacteristic) to 0 (neutral) to 3 (most characteristic). As indicated in Figure 1, a fixed number of items are placed under each point on the scale, which once completed takes the form of a quasi-normal distribution. The 4 items you consider most characteristic are placed under the column with value 3 and the next 8 items considered characteristic but to a smaller degree are placed under the column with value 2; sorting should continue in this manner until the response matrix is completed.

4. Use the CAQ program provided to input your sorting for each case. This will yield the attachment classification and allow you to export your results (see the next sections for detailed instructions).

Important Notes:

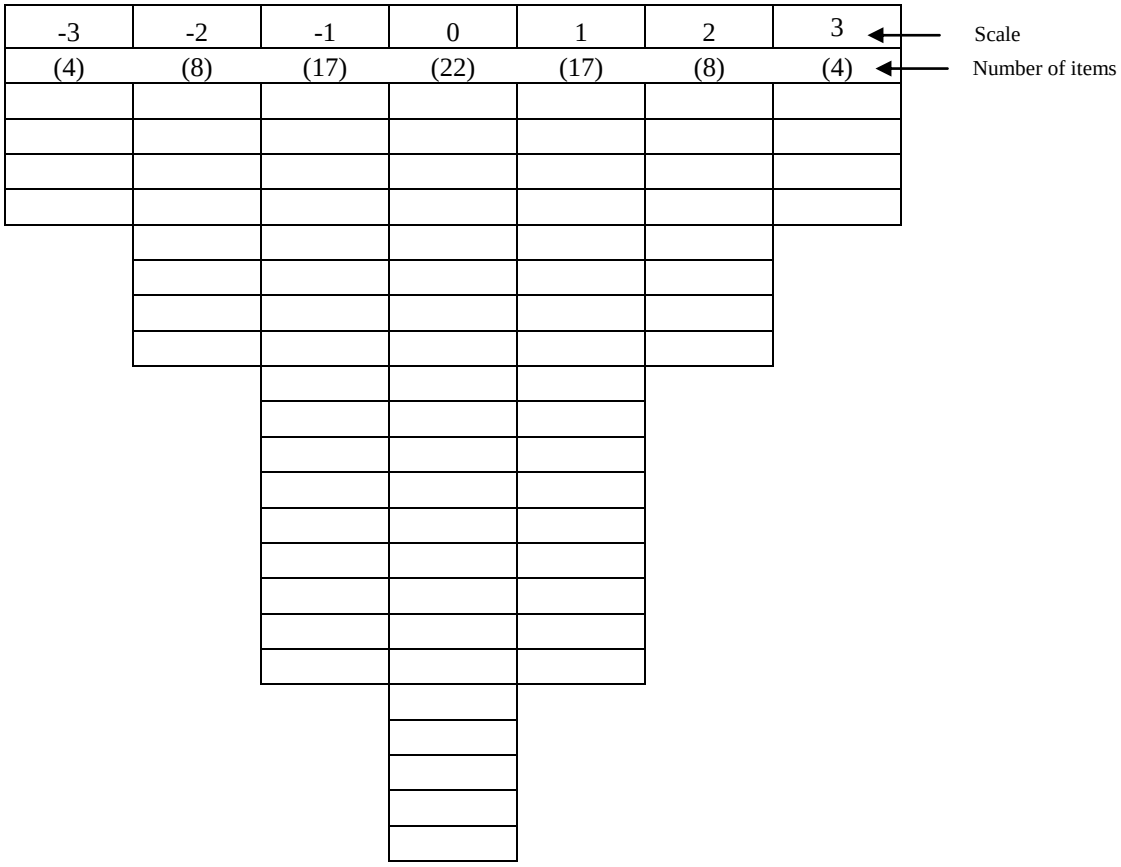
- **When rating the card items for each child, do not focus on isolated occurrences of any particular verbal or non verbal behavior supporting the particular item. Keep in mind the questions mentioned above and the overall picture presented during the interview.**

  The only exception is if a child does one bizarre thing because it may be possible that a child is disorganized but displays episodic rather than pervasive disorganization

- **After each CAQ that you complete, please make sure to mix the order of the cards before you begin your next coding so that they are in random order. This is very important, so please do not forget this step.**

- The DVD I have provided does not always work well on Windows Media Player and also sound manipulation is often limited, so it might be best to try using any other program you might have. I have found VLC Media Player to be useful, this is very easy to download, simply do a search for it on Google.

Figure 1. Quasi-normal distribution and response matrix for Q-sort items



CAQ Program Instructions

System requirements:

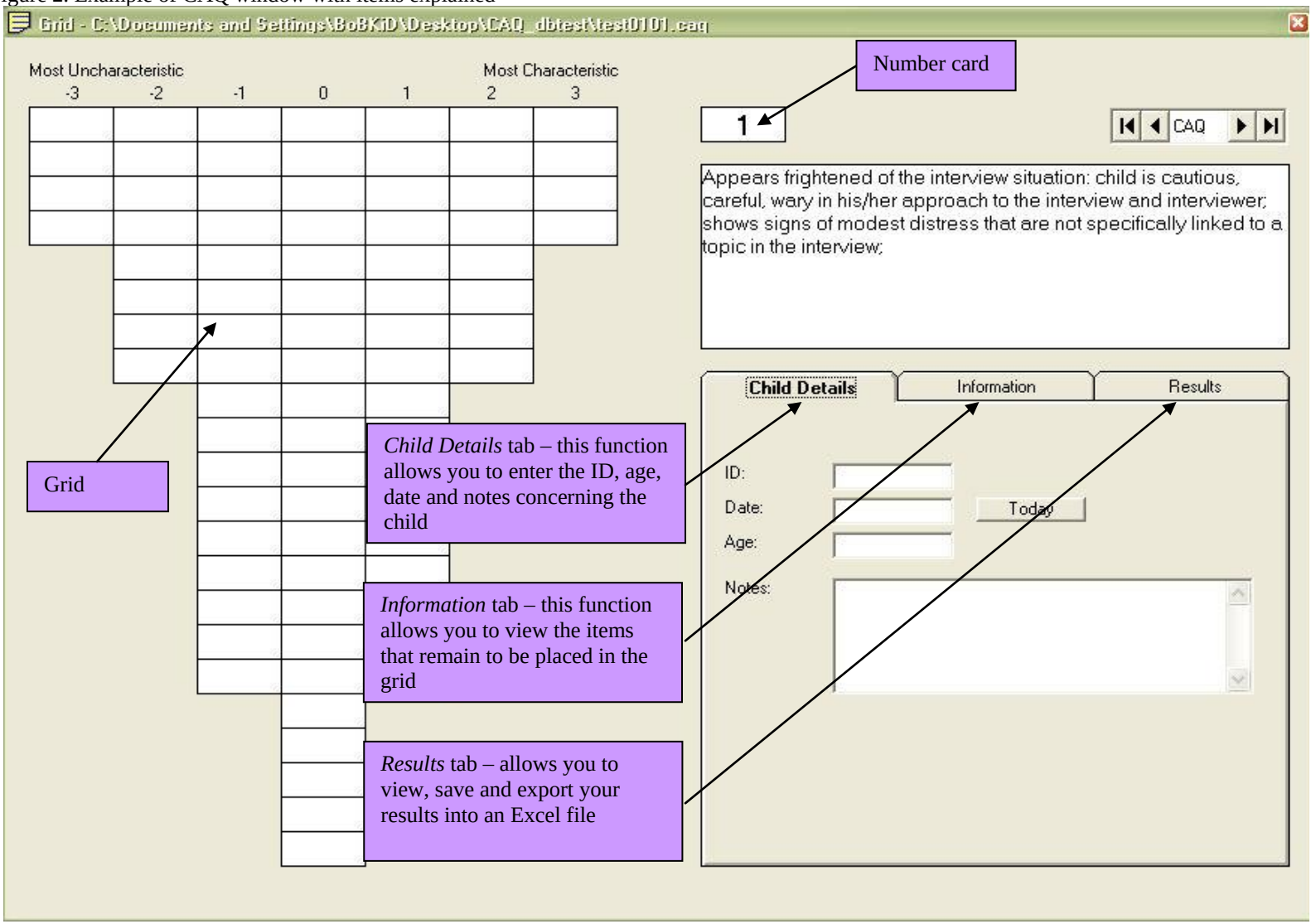
- Microsoft Excel
- Windows XP

Please note: This program will not work on a Mac.

Installation instructions:

1. Open folder labelled CAQ
2. Click on the icon labelled setup.exe and you will be guided through the installation process

Figure 2. Example of CAQ window with items explained



Scoring instructions:

1. Once your manual CAQ sorting is complete, open the CAQ application by clicking on Start > Programs Menu > CAQ > CAQ

2. Click on File > New > enter a file name for the case > click Save

3. To enter the information of the child, click on the *Child Details* tab

4. To enter the items into the grid, drag and drop the number card of the item into the relevant location in the grid

5. To navigate through the item cards you can
    a. Click on the arrows found at the top right corner, or
    b. Click on the number corresponding to the item card in the *Information tab*

6. To view your results, click on the *Results* tab > click on the Get results button. Three types of results are possible, these are:

    a. only one attachment classification yields the highest score, in this case the resulting classification will be displayed

    b. the child is scored as disorganized (e.g. this is the classification with the highest score), in this case the child will receive a main classification (disorganized) and a sub-classification (this is the classification with the second highest score)

    c. the highest score corresponds to two attachment classifications, in this case there are two possible results

        i. if one of these matching scores belongs to the disorganized classification, this will be assigned as the main classification and the other will be assigned as the sub-classification

        ii. if one of these matching scores does not belong to the disorganized classification, a drop down menu will appear for the coder to select the classification that best represents the child; this will be assigned as the main classification and the other will be assigned as the sub-classification

Notes:

- Do not forget to save your results periodically by clicking on File > Save; the program will not automatically save your results
- After completed the grid, the Get results button will be activated, clicking on this will not permit any further changes in the grid
- If you incorrectly drag and drop an item card into the grid twice, the relevant item will be highlighted in red
- As you navigate through the items, an item already entered in the grid, will be highlighted in red

Glossary

Idealization: child's representations of attachment figures are distorted in a positive direction

Relationship Episode (RE): any part of the narrative where the child describes an interaction between themselves and an attachment figure. Most REs would involve interaction with the child's mother and/or father. Some REs may include other family members, teachers and friends.

Clear examples of relationship episodes:
"My relationship with my mom is good because we just like to be together. Often we will just have cuddles together because we like each other".

"My relationship with my mom is dodgy at times. She gets angry with me when I have an argument with my brother and will send me to my room. A few minutes later she would call me and I would say sorry."

References

Shmueli-Goetz, Y., Target, M., Datta, A., & Fonagy, P. (2004). *Child Attachment Interview (CAI): Coding and classification manual version V*. Unpublished manuscript, University College London, UK.

Appendix 1

CAQ Item Cards

1	appears frightened of the interview situation: child is cautious, careful, wary in his/her approach to the interview and interviewer; shows signs of modest distress that are not specifically linked to a topic in the interview;
2	bizarre facial expressions, grimaces, unrelated to context of interview: child exhibits shows silly, distorted, or unusual facial expressions (i.e. it is more important that the face is silly or unusual and "put on" that what the actual facial expression is) in a way that is apparently out of context
3	Child manages to unnerve or derail the interviewer: interviewer loses track of interview (e.g. skips section or repeats question or forgets important information child has provided), and discusses off-task topics (other than brief rapport-maintaining comments); interviewer shows moments of being confused or lost in terms of where s/he is in the interview; interviewer may appear upset or frustrated or is forced 'to set limits' for the child
4	child "zones out" during interview (trance-like): child looks very flat and then 'snaps back' into attention; loses concentration not attributable to hyperactive behavior or silly behavior that interrupts interview; child seems confused, absorbed elsewhere
5	child makes contradictory statements that are impossible to reconcile; either unaware of the contradiction in what s/he said, suggesting lack of self-monitoring, or has no interest in clarifying them, e.g. child states that she is with mother all the time but also that she is away and they only meet some weekends
6	grossly immature acts (e.g., silly to camera, making faces, acting goofy): making faces to the camera without regard to what kind of faces are being made; 'goofy' behavior is defined as hyperaroused, silly, uncontained affect, over-exuberance
7	psychologically confused statements that cannot be true about internal states of others: attribution for another's behavior is not possible, wildly distorted or extremely unlikely based on the circumstances or how individuals generally respond and think, or the knowledge available to the child; attribution might involve magical thinking, e.g. child mysteriously "knows" or "understands" somebody's state of mind with no contact

8	overly concrete thinking : child may repeatedly miss the point of a question about thoughts or feelings, be too literal in his/her interpretation of what the interview said or what the interviewer is getting at; 'theory of mind failure', for example "anybody close to you" is assumed to mean physically close
9	inconsistent engagement with interviewer: there are dramatic variations in the child's relation to the interviewer, so behavior toward interview(er) is not predictable, e.g. child swings between extremely friendly, intrusive behavior and remote, bored attitude
10	distracted by external factors (e.g., crisp packets), non-contextual behavior: child crumples food bags, plays with pens and other objects around him/her; to be scored highly the behavior must be pervasive and disruptive to the interview
11	incongruent examples: examples of adjectives (whether or not in response to the adjective question) are entirely inconsistent with the intended characteristic being described, either because they contradict the characteristic being described or do not relate in any even indirect way to the characteristic being described, e.g. the relationship with Mom is loving because she lets me sit on her lap and smoke her cigarettes. This does not include weak, unconvincing or idealizing examples
12	incoherent stories, narratives that do not make sense: it is extremely hard to follow what the child is saying; even 'filling in the gaps' leaves gross incongruities and oddities and inconsistencies; or there is a rambling quality to the story which never gets anywhere
13	child becomes overwhelmed by sadness or fear related to previous upsetting events, even though affect may be appropriate it is extreme and not containable for the child, e.g. child cries a great deal when describing separation from or death of attachment figure which are not recent events
14	child seems not to adopt and/or maintain the interviewer-interviewee context or norms of interviewer-interviewee roles; child may break out of interview mode to ask questions off task, e.g. personal or unrelated to the interview
15	seeks physical contact with interviewer, moves toward interviewer: in the course of the interview the child makes physical contact with the interviewer or interviewer's objects (pens, handbag, etc); or the child moves closely to the interviewer so as to be invading his/her personal space
16	child tries to set agenda, willfully controlling pace or content of interview; treats the adult interviewer as if the child were the expert and the interviewer were the student
17	hyperaroused/agitated: general affect and engagement in the interview is 'hyper', agitated; child may keep moving about, fiddling with objects
18	shows scorn/contempt for interviewer (acts as if interviewer is stupid): child answers in a way that s/he expected the interviewer to know already, or acts as if the interview question is silly or stupid or irrelevant;
19	unable to elaborate on questions that tap mental states; is “at sea” re: mental states (self and other): loses track of interview and doesn't get the point of the interviewer's questions about the "why" questions concerning mental states; child may seem lost, out of his depth
20	emotional states are not well modulated; there is turning “on and off” of affect or swinging to relative extremes: child shows both extreme bubbly/hyper/manic behavior as well as flat affect; the changes in affect are not gradual but as if by a switch (and can therefore come across as fake and ingenuine)
21	Open and convincing discussion of a range of feelings: the interview covers a range of feelings and the child is able to relate to all part of the interview; good and bad events and feelings are mentioned and the child is open to reporting events of a range of affects, not just neutral or positive or negative
22	examples supporting adjectives and of caregiving are recalled quickly, without protracted search or prevarication

23	conversational style is fluid and "goes somewhere": conversation is back and forth, reciprocal, mutual, and there is an exchange of information;
24	child seems reflective and thoughtful: child takes the task seriously and tries hard to think of why behaviors and feelings occur; child is eager to help the interviewer understand his/her point of view
25	child appears engaged and interested in his/her memories of relationship episodes: child takes time to think back to events that happened
26	Child verbalizes deep affection for parents: child expresses very positive feelings about parents and shows unequivocal love for them;
27	Shows immediate pleasure when asked to think about parents: immediate and clear smile on face when asked to think of examples to describe relationships with mother and father
28	Clear evidence of going to parent for emotional help/guidance/support, a specific example is given in which child was upset and sought comfort from parent
29	affect is appropriate to what is being described: regardless of what the content is (i.e. good or bad), the child's affect is neither too flat nor over-exuberant
30	the child understands what is being asked for : child readily appreciates what the interview is about and understands the interviewer's focus on the emotional relationship and feelings and thoughts associated with it; there is a 'shared attention' in the interview; child is collaborative with interviewer; fills in gaps to provide explanation but does not overdo this
31	the child readily comes up with examples: the child is able to tap into a rich store of memories from which to choose vivid examples, examples concern emotionally salient experiences, they appear meaningful - neither bland nor trivial
32	child seems interested in the task in their non-verbal behavior, e.g. makes and keeps eye contact, orientates body towards interviewer, gestures are related to narrative
33	parents are described in believably mixed terms, some good, some bad aspects
34	able to take another's perspective: child readily refers to how others think and feel in the course of the interview; this understanding helps the child to describe and explain events in a coherent way
35	Values accuracy: honesty in reporting relationship experiences: child works very hard to think of what it was that actually happened in the past; the child is keen to get the interviewer to be able to 'see' what happened and get a sense of what it was like; child does not make short cuts in describing and does not seem to skip over details
36	For each question, child pursues "story line" with confidence and determination (narrative is shaped by overall affective theme which makes the narrative interesting and engaging to the listener)
37	can describe negative emotional experiences with relative clarity (sufficient detail but also succinct); even very difficult interactions or patterns can be discussed with interest and in a convincing way
38	child appreciates that s/he needs the help of others and makes reference to this (in matter of fact manner); does not just present competencies or inadequacies
39	convincing examples of parents soothing child: concrete and believable examples of the parent addressing/soothing/satisfying/comforting the child when the child was in distress or was otherwise upset
40	Has explanations for self and others' behavior (running commentary): child goes through the interview with constant reference to reasons for others' behavior and own behavior; no additional prompts are needed by the interviewer to get the child to report why things happened or why individuals felt a certain way
41	Child's body language or gestures indicate awkwardness about emotionally loaded subjects
42	The child gives general assurances to the interviewer that his/her relationships with parents (e.g. "it's just normal")

43	The descriptions of what happens with the parents seem full of superficialities and platitudes, apparently avoiding specific descriptions of interactions (e.g. “it is always fun”, “she is a great mother”)
44	Very disrespectful of the parent and the parent’s role (without intense anger), e.g. "she (mother) is completely useless"
45	The child describes negative events (e.g. getting hurt) as though they are no problem, that they are unaffected
46	The coder feels that the child's response seems false, unconvincing (e.g. "I really like being with my Mom" is accompanied by a sad look and no example)
47	The child offers only 1-2 adjectives for the relationship with at least one of the parents
48	Examples and adjectives tend to be very 'concrete': physical descriptions ("he does lots of DIY"), or factual, (superficial) list of events (the child mentions trips with parents, with no elaboration)
49	There are gaps before most answers, during which the child seems to have trouble thinking of anything to say
50	Child avoids eye contact with the interviewer through most of the interview
51	Child does not show interest in or awareness of the thoughts or feelings of his parents (e.g. that they may get angry or worried)
52	Descriptions of relationships and events are empty of content or very bland (e.g. "It's OK", "Like everyone else.”)
53	The child seems unemotional even about subjects which would usually be enjoyable or upsetting
54	child seems bored or resentful about the interview (e.g. sulky), appears to want to get the interview over, or is irritated about being asked personal questions
55	the child shows non-verbal signs of discomfiture, e.g. often plays with hair, rubs eyes, while looking anxious
56	child does not help the interviewer by volunteering information; interviewer has to solicit all information directly and explicitly (“pulling teeth”)
57	child says he or she cannot remember events or examples
58	Child avoids talking about attachment aspects of experience, e.g. instead of focusing on interactions with attachment figure focuses on impersonal aspects (e.g. child describes having meal with parent and only talks about the food).
59	child appears to assume that he/she is able to deal with most things by him/herself
60	child's responses appear to be the least possible in answer to question, not elaborated
61	The interview is unusually long (more than 40 minutes, not accounted for by interruptions, additional caregivers)
62	The interviewer finds it difficult to keep the interview moving and on track, because EITHER replies are vague and confused, OR the child gives extra or detailed examples of bad or wrong things happening
63	The child expresses anger or sadness that is either out of proportion to the events described, or is the predominant feeling expressed in the interview as a whole
64	The child wants the interviewer to agree with his/her view of situations being described, by expressing indignation or unhappiness (e.g. enlisting sympathy and support)
65	Affect tends to be unvarying and negative through the interview – e.g. vague, angry, miserable, annoyed, anxious
66	The examples offered in answer to one question seem to involve several negative aspects, e.g. the child is asked for an example of being separated, and brings in being ill, parent being upset with him, etc,

67	The child tends to describe most relationships in caregiving terms, e.g. teachers, friends' parents, are described as looking after or failing to do so
68	The child holds the floor and makes it hard for the interviewer to find space, EITHER child gives multiple or long examples, OR the child fills gaps with 'place-holding noises', such as "mmm…" I mean ... well...", in other words seems to be intending to say something but does not come up with fully-formed ideas
69	The child addresses the topic, but gives EITHER over-detailed or multiple examples, OR wanders off from the story when anxiety-provoking situations are being discussed
70	Examples are told in an overly dramatic way, histrionic or drawn out
71	There is an impression that the child needs looking after, EITHER the child says that he/she is not being looked after properly, OR there is a feeling of neediness communicated by the way in which events are described (the child may seem sad or lost)
72	Child implies blame to others (notably the parents) for bad things happening, OR expects that things will always be bad
73	The listener cannot easily understand or follow what the child is saying
74	The interview is consistently bogged down, (e.g. the interviewer is flooded with irrelevant details, the child's answers keep wondering from the topic) and the interview ends up a little bit like treacle
75	A few examples are offered in answer to several questions, the child seems to have difficulty in remembering clearly and tries to go back to previously described events
76	The people or events are described at length but despite this, the picture remains vague
77	The child speaks as if lost in the narrative, e.g. EITHER as though complaining to or arguing with the parent, OR as though so caught up in what is remembered that he/she cannot take any perspective
78	Interviewer has to supply much of the organization to the interaction in order for the child to stay on track (e.g. prompting for information or clarification, reminding the child of the question, or persuading him/her to move onto another subject)
79	The child has difficulties in focusing on and answering the question (e.g. the child appears to have difficulty in finding words; child has difficulty in expressing an idea)
80	The child has great difficulty in thinking about experiences with the caregivers

B.4. CAQ Training System III

CHILD ATTACHMENT Q-SORT (CAQ)

CODING AND CLASSIFICATION MANUAL FOR CHILD ATTACHMENT INTERVIEW (CAI)

VERSION III – JULY 2011

Developed by
Athena Tsiokris, Mary Target and Peter Fonagy

Research Department of Clinical, Educational and Health Psychology
University College London,
Gower Street, London WC1E 6BT
United Kingdom

Introduction

The Child Attachment Q-Sort (CAQ) is a coding system under development that aims to assist the assessment of attachment quality in middle childhood. The information is elicited with the Child Attachment Interview (CAI), an instrument developed to assess attachment representations for this age group (Target, Fonagy, & Shmueli-Goetz, 2003).The CAQ can be viewed as a further development of the CAI coding system, utilizing the same semi-structured interview format but implementing a different, simplified coding method. The CAQ differentiates itself from the existing coding system by using Q sort methodology, requiring minimal training and no prior knowledge in the field of attachment.

The CAQ is rooted in direct and specific observations, in other words it is more behaviorally based than inferential. It is designed to allow the coder to describe what he/she sees in the video without having to make theoretical interpretations. The items of the CAQ are ordinary knowledge descriptions that relate to each attachment category. In comparison, the CAI requires the coder to have knowledge in theoretical concepts of attachment and makes inferences based on observations of each child.

Q Methodology was developed in 1935 by William Stephenson, a British physicist and psychologist (Brown, 1997). It was not until recently that this method was embraced by psychology. This methodology is now being used for both assessment and research purposes in the areas of personality (Block, 1961; Shedler, 2007), maternal behavior and attachment in infancy (Vaugh & Waters, 1990) and adolescence (Kobak & Sceery, 1988).

Briefly, application of the CAQ requires the rater to arrange the items cards to characterize a particular child. The order that items are placed should be representative of the child, items most characteristic of the child are assigned high scores and those least characteristic are assigned low scores in (Block, 1961, p. 29). (More detailed information and instructions are included in subsequent sections of this manual.)

This method was chosen because it provides a means to develop a standard language for assessing attachment. A standard language allows for a systematic and quantifiable form of attachment classification facilitating comparison of observations among raters (Block, 1961). To further facilitate this language development, efforts were made to formulate items in such a manner to prevent the use of jargon. Writing items in this manner "minimizes unreliable interpretative leaps" (Shedler & Westen, 2007, p. 43) and allow coders outside the field of attachment to easily use the CAQ. An impediment of the CAI coding system is that the language used is at an advanced conceptual level, whereas with the CAQ it was simplified and kept at the observational level.

Furthermore, this method provides a means to prevent the coder from imposing a priori decisions about the attachment classification corresponding to any particular child. This occurs because the items are rated in random order with a focus on representativeness of the child rather than attachment classification. Even if the coder has a vague idea of the possible resulting attachment classifications, it is quite difficult to impose this on the Q sorting process.

Types of Attachment Classification

Disorganized

In their formulation, Main and Solomon coined the term disorganized/disoriented (D) to describe various bizarre and contradictory infant behaviors in response to the Strange Situation separation-reunion procedure. Main and Hesse (1990) further postulated that these behaviors reflected a breakdown of organized strategy that may have resulted from a relationship where either the parent's behaviors is frightening or the parent is frightened herself/himself. The "disorganization in the infant may be reflective of the disorganization in parental caregiving strategies, and that developmental changes occur over time such that the initially disoriented and disorganized infant comes to assume a somewhat parental role within the parent-child relationship". They further suggested that the need for control stems "out of a need to care for or control a parent whose own caregiving strategy had been disorganized by loss or by other traumatic events."

Further, Lyons-Ruth (in press) drew a distinction between infants of frightening or hostile mothers and those of helpless/fearful mothers hypothesizing that D/secure infants may become withdrawn, frightened, cognitively and behaviorally disorganized and dissociated in early and middle childhood as a consequence of mothers' frightened behavior. D/insecure infants may employ hostile, punitive aggressive and controlling strategies resulting from mothers' frightening behavior.

Whilst preliminary data does not as yet enable us to clearly specify how behaviors identified as 'D' in infancy may translate into middle childhood, several proposed indicators are presented below.

Sudden switches of affect in response to loss, trauma, and/or frightening experiences (e.g., switch from animated descriptions to complete silence in response to a loss or trauma question), interrupted speech (e.g., freezing, or long pauses).

Excited/frightened oscillation, turning one feeling to another feeling. Affects states that are irreconcilable or incompatible with the context and content of the description relayed, and any bizarre behavior, bizarre descriptions of death including loss of pet when the description of loss clearly stands out in relation to the rest of the interview.

In addition to the above indicators, we have assessed several children that have clearly shown controlling-punitive behaviors within the interview largely expressed in controlling behavior and at times clearly abusive behavior towards the interviewer.

Other, more subtle but nevertheless controlling forms of behavior include withholding information (For example, a child saying "I have a lot to tell you but can't").

• Example of a lengthy unlicensed pause and sudden mood swing.

To provide a context for the silence observed, the response given by one child to what happens when she gets hurt is briefly presented prior to the silence.

> Mommy and daddy took me to the hospital where I was born. *How did you feel?* I still had to go to school (very excited, makes faces). *That must have been tough?* The child then starts singing "Do you ever dare to scare your Mom and dad's underwear, do you ever dare to scare your brother or you sisters' or your Mom's or your dad's underwear…" *Some children I've talked to have told me they've been touched in their private body parts, Has that happened to you?*……..**28 seconds pause** (becomes frozen, somber, very serious expression on face). Can you say that again? *Some children I've spoken to have told me that they've been touched in their private body parts, has that ever happened to you?* Uhm..no. (rate ??)
>
> • Another example of long silence was observed in a child's response to being asked to provide three adjectives to describe his relationship with his father.
>
> *Can you tell me three words to describe how it's like to be with your dad?* Good**…..50 seconds pause.** Can't think of anything else. *Ok, why did you choose that word?* Because he takes me and my brother out somewhere far so that we can see where he goes everyday. *He takes you somewhere far, where does he take you?* I don't know. *Does he take you to work?* No. *Out to the countryside?* No. *So it's just far away from where you live?* Ya. *And where is it?* Shops. *Tell me about a time when it felt good to be with your dad?* When he took us very far to someone's house and we felt very good and we ahm we walked a bit and …nothing else. *Can you tell me when that happened?* Before ahm don't know when.
>
> • Example of incompatible affect (incongruity between external expression and content of response).
>
> *You said she then sends you to your room and then what happens?* She said, she always says I have to stay in my room for the rest of the day but she don't really mean that. *How do you feel*

when that happens? Oh I can't remember. *So when she sends you to your room, what do you do then?* Don't know, she hits me I just sit about for 10 seconds later and then come out. When she hits me I ran up to my room and hide under the cupboard and I start to cry (laughs with large grin) *Right, I see.* I have to hide and once my Mom was really angry with me and I blocked down the door and hid in my cupboard and she just, I don't know how she could just push open the door because there was my big heavy desk and I hid in the cupboard and I don't know why, I don't know how she knew I was in the cupboard and she opened the cupboard and I was there (tells the story with excitement, inappropriate to the content of the story). *Oh so she found you. Do you get frightened sometimes when your mother gets upset?* Ya it scares me. *What would happen then, would it be resolved?* I would say sorry and
give her a cuddle (laughs).

• Example of bizarre, incoherent response to loss of pet

I also felt sad when my animal died Nan got a friend and her Mom's budgie died. I'm going to cry when I tell it, she didn't even tell me that she gave the budgie away, she kept on telling me that it flew out the window. *How did you feel?* Sad, I cried, in fact I'm just going to start crying now. *Did you love the budgie?* I loved it with all my heart, it sat on my finger. *It was your friend?* My only friend. *Why did you grandmother give it away?* Because the woman would be crying for the rest of her life, my aunt's friend's Mom. *Why?* When we had a special dinner. Get cucumber and feed it to the budgie. I think she thought the woman was upset but what she didn't know was that when one of my pet dies so I soon go over it but Nan didn't know that she could get over it. *Who could get over it?* My aunt's friend's Mom's budgie died but before then my dog died but I'm over it. *Were you upset?* I was a baby, it was a German Shepherd, I was zero when it died, no I was one year old. The cat died but we got another one. We took the cat to the vet and it died at the vets. (Playing with her ear) I'm just looking at my earrings, last night I looked at it and had stuff behind the ear, found some green stuff but it's absolutely clear (changes subject).

The above child showed a number of other unusual features which we will be considering as indicators of disorganization of attachment strategy. For the moment we will simply list them:

Bizarre associations or intrusion of catastrophic images (e.g. talking about getting lots of presents, everything she ever wanted, she describes an advertisement showing how not having a smoke alarm can lead to child being killed in fire, however many presents there are).

In sequence quoted above, affect appears somewhat simulated (does not cry earlier in interview when appears very sad, but crying over loss of budgie is announced beforehand and appears more staged).

The child repeatedly describes herself as taking care of the parents, particularly by cleaning up whenever either parent is upset. This child also seems to have a fantasy of having been a completely competent baby: she remembers exactly what her dog looked like although he died when she was a baby. Much more oddly, she believes she learned arithmetic from her grandfather who died around the same time – this is either evidence of disorientation with respect to time of the grandfather's death, or of a bizarre assumption that she was able to learn arithmetic at under a year of age.

Another conspicuous aspect of this child's interview is mixing up her relatives. Although she has a complicated family situation, the degree of disorientation with respect to person seems abnormal.

The child describes behavior that is an ineffectual, infantile strategy in the context of separation (she says she locks her mother in the house to stop her going away). The verbal description was coherent but the behavior described was not.

Another way in which this child describes herself is as like a machine – a cleaning machine for cheering up her parents, or a killing machine.

A further but more doubtful feature is escalation of the theme of loss: multiple experiences of loss are added without prompting.

This is by no means an exhaustive list of possible Disorganization markers.

Secure

• Flowing quality to the narrative. Prompts by the interviewer are relatively infrequent and narrative production is generally spontaneous.

• 'Secure' children tend to be overall collaborative when recounting relationship episodes and present a coherent and consistent picture with little or no 'Idealization'. If 'Idealization' is present, the discrepancy between the semantic and episodic levels is minor and functions to present a slightly more favorable picture but not as a complete distortion of childhood experiences.

• Relatedly, 'Secure' children (and some adults) tend to display a slight positive bias, particularly in the 1st part of the interview. If this positive view is substantiated in the latter part of the interview with specific episodes, this does not lead to 'Idealization' but is rather indicative of a slightly unbalanced view of attachment figures/relationships. As a general rule, 'Secure' children are able to discuss both positive and negative aspect of their attachment figures. Even if adjectives describing their relationship to both attachment figures are exclusively positive, discussion of times of conflict is fairly open and is not deflected or blocked. Some recounting of less favorable interactions with attachment figures would be fully described as well as those aspects of parents which are less positive or 'ideal'.

• Secure children most often express a clear valuing of attachment relationships across the interview as a whole. Acknowledgment of the impact of a separation from attachment figures, a need for comfort and attention at times of illness, physical injury, and conflict, and a clear sense of the bond between the child and the attachment figure is conveyed. This however, does not imply that secure children openly express a sense of valuing for each and every relationship episode containing the above themes. Some secure children may express a sense of vulnerability and dependency upon an attachment figure in one or two particular relationship episode but then not in a subsequent episode.

• Affective descriptions of relationship episodes are common and unlike those children judged 'Avoidant/Restricted', emotions are not merely labeled, but placed within a relational context and elaborated upon. Secure children are able to describe multiple and at times conflicting emotions in an open and coherent manner. The degree of spontaneity in the expression of emotions may vary quite considerably, but the judge's perception will be that the child conveys a sense of emotional understanding and openness as opposed to a sense of emotional restriction.

• Secure children provide on the whole detailed, elaborate, and relevant examples to corroborate their general relationship descriptors. This however does not mean that each and every relationship episode is elaborated upon. Instances of inability to recall are at a minimum, and even when children reports loss of memory, it is not intended to block any further discussion.

• Slight present anger may be expressed, but in a contained manner.

• Secure children discuss times of conflict in a coherent and truthful manner, and most often describe constructive resolutions to those conflicts. Some children may not directly address the resolution of the conflict under discussion, but the judge has the impression that the conflict is no longer active.

• Secure children are able to present a balanced view of relationships and parents and may discuss difficulties in the relationship or parents in an open and coherent manner, and discuss less than 'ideal' aspects of parents with acceptance whilst also describing imperfections in themselves.

> For example, a 10-year-old boy described an aspect of his mother as "crazy". When asked to elaborate he replied "Well she was sort of running about, saying things like "Oh go and then go do that, go do that" and she was being a nutter, she was just being really erm how should I say, well she is a crazy person and I suppose I take after her too"
> *What had you done to upset your dad?* "I had just wound him up cause first it started off as a joke and then he said to stop it but I didn't stop and so he'd gotten upset with me". *And did you know why he was getting angry?* "Yeah because I was just, I knew I was annoying him too much but for some reason I just couldn't stop, I just had to keep on going"

• Some 'Secure' children, but not all, may show instances of reflectiveness indicated in their ability to express representational diversity, or a shift in representations.

Dismissing

• Attachment is de-activated, down regulation of attachment

• Dismissing children frequently emphasize their independence and self-sufficiency. This is particularly pronounced in discussions of times of hurt or illness. Whilst secure children would turn to an attachment figure for help, support and comfort, dismissing children report relying upon themselves.

• Attempts to present attachment figures as 'perfect' or 'ideal' fail in the face of unsubstantiated adjectives or descriptive words to describe the relationship. Autobiographical memories are either relatively absent or actively contradictory to the description of the relationship at the abstract level.

• Some recounting of unfavorable experiences with attachment figures may be present and flaws in parents may be described but these are often unelaborated and/or are shortly after deflected or cancelled out with positive descriptions.

• Discussion of both positive and negative affect is largely absent, in particular feelings of vulnerability, need, and dependency. On those occasions where feelings are expressed, they are not elaborated upon but merely labeled. The sense is that dismissing children can label feeling states and know which are appropriate in different contexts, but responses are scripted, restricted and lack any connectedness and emotional quality. Further, labeling of feeling states often comes as a direct consequence of prompting from the interviewer and is rarely spontaneous expressions. Judges must therefore be very careful in distinguishing emotional openness from the simple and context appropriate labeling of affect.

• A characteristic marker of interviews of Dismissing children is the strong emphasis on activities and material objects in the service of substantiating and supporting positive descriptions of attachment relationships and interactions. In these interviews, reports of fun activities with parents or shopping trips with parents where the child receives a new toy or game are put forward as substitutes for more 'relational' interactions. Thus, a representation of an attachment relationship that is functional in nature and predicated on the giving of material rather than emotional comfort emerges. For example: "*Can you tell me about a time you felt happy with your Mom?* That probably half an hour ago when I found out when I was going to Boston, which was fun, happy. *And a fun time?* Erm is was probably last August, maybe July erm cause they'd already gone on holiday, I thought I was going to [place] and I was given some dollars and found out I was going to [place] for two weeks half an hour before I was on the plane".

• An episodic memory offered in support of a general positive descriptor is often repeated and offered as support for another positive descriptor resulting in an episodically impoverished narrative. Furthermore, like adult responses in the Adult Attachment Interview, some word for word substitution occurs.

For example, a 10-year-old child described her relationship with her mother as fun, tiring, and enjoyable. When asked for an example for a 'fun' time with Mom, she reported that she cooks and bakes with Mom and that it is enjoyable. When asked to think of an example of a time that was enjoyable with Mom, the same child said "I enjoy being with her because we can always make a lot of fun together. If I do anything with her I enjoy it".

• Dismissing children will frequently respond with "I don't know" or "I can't remember" when asked to provide a specific episode, sometimes with little apparent effort to recall. Reports of lack of memory in these instances reflect an attempt to block further discussion of the topic rather than a genuine lack of memory. By extension, some children respond by saying "I can't really explain" which also appears to have s a similar function.

• Interviews with Dismissing children often include substantial prompts from the interviewer and are marked by restricted and short responses. These interviews are by and large shorter than interviews with their secure or preoccupied counterparts.

• Expressions of feelings of anger or crossness often replace those of upset, sadness or hurt. This is particularly evident in discussions of conflicts with parents.

• Acknowledgement of the impact of loss, separations, and times of need is largely absent. If feelings are referred to, by and large they are qualified with words such as "a bit" or "quite".

> For example, when asked about a long separation from her mother, the child said "I didn't really notice not being with her. Well I like being with her but I don't actually like being with her in [place] because I like doing my own thing". Another child was asked how he felt about his great

grandmother dying to which he replied, "I didn't care". Whilst this child wasn't particularly close to his great grandmother, a secure child would have replied "I was a bit upset but not that much because I wasn't very close to her".

• Little or no reference to attachment figures when describing in particular times of illness and physical injury, reflecting a sense of absence of representations of attachment figures and lack of relatedness.

For example, when a 9-year-old girl was asked what happens when she's ill, she replied "If I'm really ill I stop school and um someone looks after me and I watch telly in bed. When asked what happens when she's physically hurt herself, the same child replied " It gets cleaned and I get plaster on it". In response to the question "*Can you tell me about a time when you felt upset and wanted help*" a 9-year-old boy said "Let's think, it's probably when I erm you know school and erm bang my eye you know couple of weeks ago, actually ages ago now it's still a bit of a bump and you know I go to hospital and you get help then. *So what happened?* I cracked heads with somebody ended up at home and. *So the teacher rang your parents?* Erm well I went home and put some ice on my eye. I went down to the hospital to make sure I haven't cracked any bones, then I found out that I haven't and then I went home and gradually gradually got better. *OK and who put the ice on your eye?* Erm first of all one of the teachers at school did and then my Mom did. *Right, What happens when you're ill?* I don't know. Well I'm usually taken to the doctor if it's ill and looked after".

• Flat quality to interviews, disassociated, disconnected, barren.

• Low maintenance of eye contact, and low engagement with the interviewer/task. This lack of engagement may be clearly accentuated when questions are more focused on the attachment relationship, and less so on more neutral topics.

Note: it is very important not to confuse developmental immaturity with a dismissing strategy towards attachment. Younger and less verbally intelligent children may speak in relatively concrete and unelaborated ways about episodes with their parents, yet on other criteria they may appear to be secure (e.g. they have warm, confiding and confident relationships with caregivers). Here, the key is to bear in mind that the classification of avoidance rests on a combination of features, not the single criteria of elaboration or being able to speak in relational terms. The distinction should be made clearer by looking at the way in which the child is able to use scaffolding from the interviewer, to elaborate episodes and bring them more to life emotionally through descriptions, with help.

Similarly, a child who seems to talk largely in terms of activities or material possessions may be able to show, across the whole interview, that his or her representation of the relationship is more complex and includes an emotional dimension. For instance, a child may first reply in terms of being given things, or what the parent does in any situation, but the description of episodes includes emotional contact, which is included as important and implicitly valued by the child. The child's narrative will contain some descriptions, e.g. about conflict, loss or separation, which include an emotional aspect that is grounded in the relationship which then indicates to the judge that this is not a child who needs to turn attention away from attachment relationships, but one who uses activities or possessions to convey closeness and other emotional qualities of the relationship, positive or negative.

Preoccupied

This category includes cases where the predominant strategy seems to be one of remaining preoccupied with the parent, and/or involving the interviewer in repetitive themes. Our experience thus far has not included many examples of this pattern, and all have involved clear flashes of anger and/or contemptuous descriptions of the parent. However, **any pattern of narrative which conveys an excessive focus on the parent and concern with the relationship should raise the question of an entangled attachment representation.**

For example, a child who repeatedly brings in descriptions of the parent being upset, needing help - or generally concern about the parents' needs or feelings – would be seen as describing a role-reversed or 'parentified' situation (whether in reality or fantasy). Similarly, if a child brings in a lot of irrelevant details about the interactions with the parent, or gives many unsolicited examples of episodes with him or her, this could be an indicator of an entangled relationship representation.

Some children may convey fearful preoccupation, so that they seem to be constantly on the lookout for mental or physical danger in the relationship with the parent. There may also be a preoccupation with danger when *away* from the parent, so that the child represents him or herself as needing to stay very close to the parent and fearful of separation. This relationship may or may not be felt by the child to be comforting when the parent is present.

We have not so far found many examples of 'passivity' as identified within AAI narratives, and where found these do not seem necessarily to serve the function of maintaining preoccupation without clarity (through vague, rambling or trailing descriptions). The few cases seem to be more fruitfully thought about in terms of disorganization of attachment representations, than in terms of preoccupation. The affective state appears more dissociated. We have therefore not included a scale of passive speech, and await further experience.

CAQ General Information

The CAQ item sample was drawn independently from the CAI manual by four attachment experts (Tom O'Connor, Mary Target, Peter Fonagy and Gerry Byrne). All of these individuals were trained in coding the Adult Attachment Interview and are very familiar with other attachment instruments. The expert coders independently produced in excess of 200 descriptors of the narratives obtained from interviews. These items were then reviewed by the group and overlaps were eliminated and items combined. Some items which included descriptors often not found together were split into separate items. This process left in excess of 120 items.

For the development of Disorganized items, interviews of Romanian orphans (adopted by British families) were viewed by the panel, then discussed and relevant information was gathered. It is reasonable to assume that these interviews were indicative of Disorganized attachment behavior since all of these late adopted children had experienced severe neglect for varying amounts of time throughout infancy and early childhood.

The expert group then independently categorized all the items into four categories (Secure, Dismissing, Preoccupied and Disorganized). The agreement between the expert categorization was unsurprisingly almost perfect, in terms of assigning statements to attachment categories. The items in each category were then rank ordered by the entire group, in terms of typicality of the item for that category and the 20 items agreed to be most typical were chosen for each of the four categories.

The CAQ consists of 80 items with 20 items corresponding to each type of attachment classification (Secure, Dismissing, Preoccupied, and Disorganized). Therefore the CAQ is comprised of 4 scales, with 20 items corresponding to each of one.

In the Q-set:

items 1-20 are supposed to be Atypical/Disorganized

items 21-40 are supposed to be Secure

items 41-60 are supposed to be Dismissing, and

items 61-80 are supposed to be Preoccupied

CAQ Items Explained

Item 1
Child appears frightened of the interview situation: child is cautious, careful, wary in his/her approach to the interview and interviewer; shows signs of mild or moderate distress that are not specifically linked to a topic in the interview;

Note:
Signs of mild or moderate distress include: child avoiding eye contact with the interviewer; quick glances at the interviewer that may seem frightened and/or anxious; child looks uncomfortable (not related to boredom) and anxious; non-verbal signs of anxiety

Item 2
Child displays bizarre facial expressions, grimaces, unrelated to context of interview: child exhibits silly, distorted, or unusual facial expressions (i.e. it is more important that the face is silly or unusual and "put on" that what the actual facial expression is) in a way that is apparently out of context.

Example:
(Like mom) *What sort of things would you not want to be like your mom?* **(**Pauses whilst making faces at camera). I don't know. (Pauses whilst staring at the camera). When your stare at it real good it goes like to big circles and it looks like big fires or fireworks or orange fireworks.

Item 3
Child manages to unnerve or derail the interviewer: interviewer loses track of interview (e.g. skips section or repeats question or forgets important information child has provided), and discusses off-task topics (other than brief rapport-maintaining comments); interviewer shows moments of being confused or lost in terms of where s/he is in the interview; interviewer may appear upset or frustrated or is forced 'to set limits' for the child.

Example:
(Mom-Loving) *Example?* She hugs me. *Yeah?* So does my friend. (Smiles – raising eyebrows). *Jocelyn?* Yeah. *Girlfriend?* Yeah. *Nice?* Yeah, she's alright. *Same age?* (Covers face and screams). *How old?* Huh? *How old?* Ten. I bet Karen's your girlfriend. Isn't she? *No.* Who is? The Queen. *Pardon?* The Queen. *The queen. I'm married.* Are you? To who? *My wife.* Who is your wife? *Don't know her.* Huh. *Don't know her.* Who? *Name?* Yeah. *Becky.* Becky. Hmm. (Pause). Have you ever had it off? Oh sorry. (Covers mouth with hand). Sorry. Sorry, that was a personal question. (Laughing) Sorry. You're laughing. Sorry. (Laughs). *I won't answer that question.* Sorry. You have. (Laughs). *Moving on.*

Item 4
Child "zones out" during interview (trance-like): child looks very flat and then 'snaps back' into attention; loses concentration not attributable to hyperactive behavior or silly behavior that interrupts interview; child seems confused, absorbed elsewhere.

Example:
*Some children have told me they've been touched in their private parts. That happened to you? (*Very long pause – child is standing very close to interviewer, staring at the question sheet). *Difficult question.* (Nods) Can you say it again? *Ever been touched in private parts?* Hmm, no (shaking head).

Item 5
Child makes contradictory statements that are impossible to reconcile; either unaware of the contradiction in what s/he said, suggesting lack of self-monitoring, or has no interest in clarifying them, e.g. child states that she is with mother all the time but also that she is away and they only meet some weekends.

Example:
(Dad-Upset) *What happens?* He says. (pause) *What?* He says (long pause) go up to bed you naughty boy. *Ok.* He just shouts. *Shouts?* (Shouting) Go up you naughty boy! *Last time?* Last time, my dad was happy. That's all. I'm finished.

Item 6
Child acts grossly immature (e.g., silly to camera, making faces, acting goofy): making faces to the camera without regard to what kind of faces are being made; 'goofy' behavior is defined as hyperaroused, silly, uncontained affect, over-exuberance.

Example:
(Separation & Parents-Argue) (Standing on table) *Do you mind sitting down?* (Very high-pitched voice). No, I don't want to, I don't want to. I want to stand up on the table (laughs). *Must see in camera.* (Sits on table) Ok then I'll go down here. *A chair with no one in it.* Yeah, but look**.** *Let's have a look if I can see you through camera.* (Child leans forward with face up close to camera) Hello! *When see Mom and dad again?* Happy […] (Leans forward and sticks tongue out at camera). *Do your parents argue?* (No reaction - making a funny face at camera). *Do your parents argue?* Yep (continues to make strange faces – laughs). *What happens?* They go (shouting and pointing) "You lost my car keys" "No I did not." *True?* No, I'm making it up (laughing hysterically). Yeah I like doing that. *Can I ask you final question?* Yes (howls like a wolf).

Item 7
Child presents psychologically confused statements that cannot be true about internal states of others: attribution for another's behavior is not possible, wildly distorted or extremely unlikely based on the circumstances or how individuals generally respond and think, or the knowledge available to the child; attribution might involve magical thinking, e.g. child mysteriously "knows" or "understands" somebody's state of mind with no contact.

Note:
- *'psychologically confused statements' refers to statements that are very unlikely or quite odd*
- *Examples of this can include "I know my Mom loves me and cares for me" when Mom is dead or behaves inconsistently very rejecting/neglectful manner toward the child, or "My dad punishes me because we think it's funny."*

Example:
(Child-nice) And yesterday I just wanted to jump into the train but my Mom said no you'll kill yourself, you'll get electrocuted, you know when you feel like you just have to do it. *Angry?* No I just felt that I needed to do that. *Why?* I don't know I just felt like it. My brother really want to jump over I actually caught him. *What he nearly did do that he nearly jumped in front of the train? W*ell these were no trains coming. *Oh he jumped onto the track, did you want to it after he had done?* I wanted to do it first, I really feel like doing it.

Item 8
Child displays overly concrete thinking: may repeatedly miss the point of a question about thoughts or feelings, be too literal in his/her interpretation of what the interviewer said or what the interviewer is getting at; 'theory of mind failure', for example "anybody close to you" is assumed to mean physically close.

Example:
Has anyone close to you ever died? Your Mom died didn't she? Nobody died close to me. *How about your Mom?* She didn't die close to me. *Close to you like you loved her.* Yeah.

(Mom-good) Example? When I was cuddling her (speaking softly – playing with toy). *What?* When I was cuddling her. *What?* When I was cuddling her. *When you were?* Cuddling her. *When?* (Clicking mouth) all the time (rests head on table). *Last time?* Once upon a time on the couch, and my two sisters waiting. *You and Mom?* Yeah. *Doing?* Nugh (strange noise - drops head onto table). *Cuddling?* (No reaction). *At home?* Yes (still playing with toys). *Feel?* I felt warm. *Mom felt?* I don't know. I don't know.

(Mom-upset) *Feel?* I felt, hmm, well my bottom feels um all red, and I feel.

Item 9
Child shows inconsistent engagement with interviewer: there are dramatic variations in the child's relation to the interviewer, so behavior toward interview(er) is not predictable, e.g. child swings between extremely friendly, intrusive behaviour and remote, bored attitude.

Example:
Example of time when dad was upset? No (exasperated – falls back on chair) it's hard. *It's a hard interview.* (Pouts). *Can you think of an example?* I also made up (sings) 'Do you ever dare scare your dad's underwear'. *Would you like to scare your dad's underwear?* Yeah (laughs). And um, I then pull his clothes and look down his chest and go (high-pitched voice) 'Ohh, there's a forest of hair. Where's the hairy fox, where's the hairy otter, where's the hairy squirrel, where's the hairy wolf, where's the hairy rabbit?' *Where do you look?* Down his chest (hysterically laughing) He's got lots and lots of hair. And I go (looking down

own top) like that. […] *Ever felt upset and wanted help?* (Playing with home-made hat – suddenly seems distant) no. *Can you think of an example?* No I can't.

Item 10
Child is distracted by external factors (e.g., crisp packets), non-contextual behavior: child crumples food bags, plays with pens and other objects around him/her; to be scored highly the behavior must be pervasive and disruptive to the interview.

Example:
(Nanny-good)(Child looking through interviewer's folder, asking questions for each page, tries to take page out, interviewer stops him, continues asking questions) What is it like to be with nanny? (pause, continues looking through folder and gasping) Good. *Yeah.* Where did you get all of this (runs finger down the page)? *We brought them in a shop.* Oh you got thousands. *Why is it good to be with nanny?* (continues to flip through folder) Because I like it. Can I keep this one? (picks a page out of the folder). *We need that.* What for? *To keep in there to separate.* Oh yeah. *The first are pictures of girls and the second of boys.* (continues flipping through folder, pause) Oh you don't need to do that, you could take that out (gestures). *We need to find them quickly.* Yeah but what about, yeah, good, is there boys in here too? *The front half is all girls and this half is boys.* Oh. *Right let's put that back now.* No I want to look at it. *We'll look later.* (flops back on the sofa, frustrated, sulks). *Why is it good to be with nanny?* (picks up pen) That's my pencil. *What do you do with your nanny that is good?* (looks at interviewer's paper and starts to write on his own paper, giggles). *What do you with nanny that's good?* (shrugs shoulders) I don't know. *Think of anything you do together?* I don't know. *Can't think of anything?* Watch television, play. *What games do you play?* It good, let me, it good (writes on interviewers paper). *What things do you play with nanny?* (continues writing)

Item 11
Child provides incongruent examples: examples of adjectives (whether or not in response to the adjective question) are entirely inconsistent with the intended characteristic being described, either because they contradict the characteristic being described or do not relate in any even indirect way to the characteristic being described, e.g. the relationship with Mom is loving because she lets me sit on her lap and smoke her cigarettes. This does not include weak, unconvincing or idealising examples.

Example:
(Dad-Happy) *Specific time?* No. *Any time?* At 14 o'clock (raises voice). *What happened?* At 14 o'clock I was going to a football club. *Do it with dad?* I do it with the other boys. *Why happy?* It makes me feel a bit (pause) it makes me feel a bit (pause) good. ***Why good?*** Because it's good. It makes you strong.

(Dad-good) *Why good?* Because Saturdays he takes me and my brother out. Somewhere far so we can see where he goes every day. *Where*? I don't know. *Does he take you to work?* No. *Countryside?* No. *Where is it?* Shops. *Example of when it felt good to be with him*? When he took us out very far to someone's house and we felt very good and we (pause) walked a bit and err nothing else. *When did it last happen?* Before. Don't know when? *Last week, a few months ago*? A few months ago.

Item 12
Child conveys incoherent stories, narratives that do not make sense: it is extremely hard to follow what the child is saying; even 'filling in the gaps' leaves gross incongruities and oddities and inconsistencies; or there is a rambling quality to the story which never gets anywhere.

Example:
(Separation) *Mom and dad longer than a day?* I've been away. *Where?* Uhm, to some places. *Without them?* Yes. *How long?* Well (pause) ten. *Ten days?* I was far away 10, 10 miles, just, they still could see it. Just step 1, and they were over there. *Yeah.* They stepped 1, 2, 3, 4, 5, 6, 7, 8, 9, 10. *That's where you were?* I was there! And they were there! *Away?* And they were looking for me. I was lost and I couldn't find them for ages. But it was night, I couldn't find them still. I don't know where to find my house. *Didn't know?* No.

Item 13
Child becomes overwhelmed by sadness, fear, or other emotional discomfort related to previous upsetting events, even though affect may be appropriate it is extreme and not containable for the child, e.g. child cries a great deal when describing separation from or death of attachment figure which are not recent events.

Note:
Examples of this can include when the child persistently refuses to think about the question, it seems to bring back difficult memories. The child may try to find ways to avoid the questions and/or the interview by going to the bathroom.

Item 14
Child seems not to adopt and/or maintain the interviewer-interviewee context or norms of interviewer-interviewee roles; child may break out of interview mode to ask questions off task, e.g. personal or unrelated to the interview.

Example:
Good friends with my grandma (nods). Umm. Have you heard of the author Leon Garfield? *Sorry?* Have you heard of the author Leon Garfield? *Yeah.* Well he's an author as well.

Item 15
Child seeks physical contact with interviewer, moves toward interviewer: in the course of the interview the child makes physical contact with the interviewer or interviewer's objects (pens, handbag, etc); or the child moves closely to the interviewer so as to be invading his/her personal space.

Example:
Any cousins that you are especially friendly with? (Swaps his pen with the interviewers, smiles) Not Shanay. *No.* She's a baby. *Is she, how old is she?* Ten. *Ten and you think she's a baby?* Yeah. *She's older than you.* Every time I go like that (touches the interviewers arm) she says granddad Ronaldo touched me.

Item 16
Child tries to set agenda, wilfully controlling pace or content of interview; treats the adult interviewer as if the child were the expert and the interviewer were the student.

Example:
(Mom-Cross) *Can you think about them, for a little bit?* I'm not going to answer them. *Know difficult to answer them, but I'm interested in what you have to say.* Well you're not. *Why do you say that?* I'm bored. *You bored?* (No reaction). *You're bored.* Yeah, me (moves away from camera). *You?* Yeah. *How about I shout the questions to you over there***.** No. *No***.** You're not even going to shout the questions to me, you're not even going to tell me them. *Can't stop me asking them.* (Interrupting) That's the deal.

Item 17
Child is hyperaroused/agitated: general affect and engagement in the interview is 'hyper', agitated; child may keep moving about, fiddling with objects.

Example:
(Mom-Upset) *Example?* No. I don't know (raises voice). I wanna see myself in the camera. *Feel?* I get worried. *Why?* Because I've done something wrong. *Mom feel?* Mom? *Mom feels?* (Child moves around room – knocks camera – still out of shot of camera – banging toys around) Um, I don't know. *Know what you've done?* Uhm (pause), no. *Not know?* No. *Fair?* Is not fair, is not fair.

Item 18
Child displays scorn/contempt for interviewer (acts as if interviewer is stupid): child answers in a way that s/he expected the interviewer to know already, or acts as if the interview question is silly or stupid or irrelevant.

Example:
Dad? His name's Simon Garfield. Most people call him Gus after his dog. *Gus?* Yeah. *Why?* Hmm. I just tried to explain it to you, because, because when he was little, about my age he had a dog called Gus.

Item 19
Child is unable to elaborate on questions that tap mental states; is "at sea" re: mental states (self and other): loses track of interview and doesn't get the point of the interviewer's questions about the "why" questions concerning mental states; child may seem lost, out of his depth.

Example:
(Separation) *Is anybody not around anymore?* (Drinks, no reaction) *Um?* What? *Anybody not around anymore?* (Drinks, no reaction). *Did you hear me?* (Drinks) No. *Say it again?* What? *Hear what I said?* No. *Anybody not around anymore?* Um, a boy. One of my family who live … I had two cats but one ran

away is called Betty. *Is that a cat?* Yeah my cat, my two cats. *One ran away?* Yeah, now I got one, Bertie wasn't running away, was Betty. *Feel?* No just one. *One went away?* No it was she. *Feel?* Because he and she are brothers and sister. *Feel?* I didn't feel that I was just a baby. *Ok.* And my cat was looking out the window until his sister has came back. *Anybody else gone?* No it's Tyrone. *Whose he?* Sometimes he doesn't hurt me but all of the time he hurts me. *Moved away?* No. *He's still around?* He's not my family.

Been away from parents? No. *Slept over?* No. *Stayed with grandparents?* Um. *No?* No I haven't. *School trip?* No. *Feel when you go to school?* Bored, it's boring if I'm a teacher and kids come to school I would say go home (gestures excitedly). *Would you?* Yeah. *Parents miss you when you go to school?* No I hate it when I go to school, kids hate it when they go to school. *Been out with your friends without Mommy and daddy?* No I just hate it when …

Item 20
Child's emotional states are not well modulated; there is turning "on and off" of affect or swinging to relative extremes: child shows both extreme bubbly/hyper/manic behavior as well as flat affect; the changes in affect are not gradual but as if by a switch (and can therefore come across as fake and ingenuine).

Example:
(Mom – Upset) *What happens?* I don't know (serious face, looks away from interviewer), she just smacks me, or something. *When done wrong?* No, when I've done something cheeky (grinning). Like what? Sneaking chocolates from cupboards (giggling). *Taking chocolates?* Like yesterday I took a snowman cake without asking (grinning). *What happened?* (Laughing). *Did she find out?* Yeah she found out that I took one (laughs). *Do?* She smacked me (laughs) cheeky, cheeky. *Cheeky a lot?* Sometimes (laughing). Oh (serious/pouty face – looking at interviewer – sighs heavily).

Item 21
Child engages in an open and convincing discussion of a range of feelings: the interview covers a range of feelings and the child is able to relate to all part of the interview; good and bad events and feelings are mentioned and the child is open to reporting events of a range of affects, not just neutral or positive or negative.

Example:
(Dad-Funny) *Example?* Well he can do really mad things like jumping up and down on the bed, fighting, wrestling stuff like that. *Example?* Before dad left on Easter day, I think it was, we just kept jumping up and down and wrestling with him. *How did it feel?* It felt good but I was feeling sad at that point because I knew he was going away

(Separation) *What's it like leaving friends behind when you move to a new school? It* gets really sad but the next school I'm going on to is a boarding school so I don't have to keep moving around the place. *What does it feel like?* Sometimes it can get a bit lonely but I can stay where I am and visit them.

Item 22
Examples of supporting adjectives and of care giving are recalled quickly, without protracted search or prevarication.

Example:
(Mom-Fun) Last week yeah, I was coming back in the car, from my Aunty going "la la la la la" (laughs) and when we were doing this woodwork I got from my Uncle Jerry, I was still going "la la la la la" (laughs). And my Mom thought it was really funny (giggles) And she said no biscuits if you keep on going "la la la la la" (laughs). So I stopped (laughs). *So you had a laugh together?* (Nods smiling).

(Child Ill) My Mommy lets me stay in bed, but I still go to my dad's house. *What does she do?* She takes my temperature, she gives me some Calpol. She hugs me a lot and she kisses me.

Item 23
Child's conversational style is fluid and "goes somewhere": conversation is back and forth, reciprocal, mutual, and there is an exchange of information.

Example:
(Dad-Sometimes horrible/Upset) *Example?* When I was out too late and I forgot, I was with my friends who are 12yr-olds cause I live next to Didsbury Park and I forgot to tell my Mom and dad that I was at the park and they were looking for me but I was with friends. *Why horrible?* Because he told me off and he

was very angry. What said? Just said "Why are you here, why didn't you come and tell Mom and me?" and he was going on about it.

Item 24
Child seems reflective and thoughtful: child takes the task seriously and tries hard to think of why behaviours and feelings occur; child is eager to help the interviewer understand his/her point of view.

Example:
(Mom-Upset) *Example?* Yah, I had to make healthy eating biscuit bars for school and she bought these books, recipe book and I was tired and horrible when I came back and I felt a bit ill and I wasn't paying much attention and she got angry with me and said "Oh fine Lucy, you have it your way, I spent ages to look for these books" and I felt sad and more depressed. […] *Why felt sad?* Cause I don't like people getting angry with me, I think. *Mom felt?* She felt angry but sad as well because she put a lot of effort into getting these books. *Why she got cross?* Because I wasn't paying much attention.

Item 25
Child appears engaged and interested in his/her memories of relationship episodes: child takes time to think back to events that happened.

Example:
(Mom-Talk together) Um, (pause) um, I remember we got into a really interesting conversation. (Frowns) um (pause) it was about her wedding, she was telling me about what it was like and I was asking her things. Cos we got the wedding photographs out and I was asking her questions about who was the best man and everything and that was really nice (smiles). *When?* Yesterday. *Talk about things?* Sometimes I ask her about dad's dad who is dead now, I ask her about things before I was born and she tells me about my granny who was really nice, I like to think about that. *What else?* Things that we're going to do in the future, like what. *Future plans?* Yeah.

Item 26
Child verbalizes deep affection for parents: child expresses very positive feelings about parents and shows unequivocal love for them.

Example:
(Mom- Love her) (can't think of second descriptor) I just love her […] You said you just love her. *Example?* When she, um, brought me a game that I wanted, and as well when she gave me a hug and a kiss when I was upset. *When did she buy the game?* Umm, around Christmas, no around my birthday. *In January?* Yeah when were you upset? When was I upset? I hurt my, when I hurt my knee and I had a scar and I had to go to the hospital, and she stayed with me, and so did my dad *When?* That was, (short pause) last year.

(Dad – I just love him as well) *Example?* Um, (short pause) yeah when he read one of his old books to me, yeah, and it was like a really long one and it was really good as well. *When?* A few months ago. *What about?* It was about, um, Arsenal, it was like a cartoon one. *One of his old books?* Yeah. *Dad support Arsenal?* Yeah. *Do you go to the football together?* Yeah.

(Mom- Like) I like being with my Mom a lot. If erm I didn't have to go to school like Mondays and Tuesdays I would pick to stay with my Mom and. *So you like being with her?* Yeah.
(Dad – love being with him) Sometimes on Saturdays well he used to take me to his work place but now that I've got a brother he can't really take me anymore cause Ross is a bit too young to go to his work but not really and I love staying with my dad, every so often like Saturday and Sunday sometimes from the Friday he picks us up and we go to his house and we stay there for the weekend. But in the holidays or if my Mom is going on holiday like for her anniversary or something maybe she'll let him look after us cos that's the person we like to go to.

Item 27
Child shows immediate pleasure when asked to think about parents: immediate and clear smile on face when asked to think of examples to describe relationships with mother and father.

Example:
Relationship with Mom? (Smiles) It's great being with my Mom. *What else? Cosy. And? Cosy. When does it feel great to be with your Mom? Every, when I'm, every when I'm with her all the time. Particular time?* When I haven't seen her for quite a bit of time cause she's always at work and sometimes I have to stay at

my childminder's after school quite a lot or stay for tea and then I see my Mom and then I think I'm glad to be with my Mom. *What do?* Just hug her sometimes.

Item 28
Clear evidence of going to parent for emotional help/guidance/support, a specific example is given in which child was upset and sought comfort from parent.

Example:
(Child – Upset) Sometimes, me and my friend R. this was a few years ago, we had quite a big fight and we were both annoyed with each other […]*Tell parents?* I had a little bit of a cry, then we had a really long talk about it, […] *Mom and dad say?* They told me they thought that we were really good friends and that I should go and sort it out, cos if you carry on having fights and things you'll never have any friends, so you have to go and say you're sorry, they asked me what I had done to upset her, and I told them a few things and they were really helpful

Item 29
Child's affect is appropriate to what is being described: regardless of what the content is (i.e. good or bad), the child's affect is neither too flat nor over-exuberant.

Item 30
Child understands what is being asked for: child readily appreciates what the interview is about and understands the interviewer's focus on the emotional relationship and feelings and thoughts associated with it; there is a 'shared attention' in the interview; child is collaborative with interviewer; fills in gaps to provide explanation but does not overdo this.

Example:
(Dad-Upset) *You feel when he tells you off?* I feel annoyed with R., and I feel sorry for what I did and I feel that I want to try harder next time. *Dad feels?* I think he feels annoyed, he didn't want us to fight, he might be tired after a day's work and he doesn't want to have to stop the fight, he feels annoyed and cross. *Why?* Maybe cos he's tired really, he doesn't really want us to fight or anything, he doesn't like things like that, he wants us to be nice happy family, to work together.

Item 31
Child readily comes up with examples: the child is able to tap into a rich store of memories from which to choose vivid examples, examples concerning emotionally salient experiences, they appear meaningful - neither bland nor trivial.

Example:
(Child-Hurt) I have had a really major injury, I fell off a bike and cracked my head open […] my dad came and carried me home down the road […]. *What happened?* They laid me on the settee and then phoned my nana (she used to be a nurse), and she said if I passed out take me to the doctor, and I was really crying. *Mom and dad doing?* They were really worried, sort of standing over me and then I was sick, I was sick eight times in one day, I had a headache and eventually, they took me to casualty a few days later, they thought it was okay but they'd probably better check, and the doctor said I had recovered really well […].

(Death) *Pet?* My Mom's granny, she had a budgie, I think she left it in her will that we take it and it was really old, and we went to S. and he was really really old. Went to S, came home and he was dead, and that was upsetting because he used to talk quite a lot and Mom loved him cos he used to imitate perfectly her granny's laugh and her cough. Cough he was really good at. […] *Mom felt?* They were really upset, my mom cried that night […]

Item 32
Child seems interested in the task in their non-verbal behaviour, e.g. makes and keeps eye contact, orientates body towards interviewer, gestures are related to narrative.

Example:
(Mom-Kind) *Example?* (Maintains eye-contact) Well yesterday she was really kind of giving me these (pats knee) trousers because they were supposed to be for my birthday but instead she gave me them for a welcome home present. *Might get another present?* (Nods) So I might get erm, well hopefully for my birthday a pair of FX ones roller-blades. *How did she give you them?* (Looks up – thinking) She put them on the bed and said close your eyes and walk in and then there it was. *How did you feel?* I felt really jumpy, happy (smiles) cos I really wanted these ones (looks down at trousers).

Item 33
Parents are described in believably mixed terms, some good, some bad aspects.

Example:
(Relationship with Mom) *Feel when you're with her.* Like I sometimes I feel happy that I've got someone to talk to. But sometimes I feel really angry, that she bugs me. *Mixture?* (Nods). *Close?* Yeah, like going up to the heath. We go up to the heath together

(Relationship with dad) *Three words?* With my dad, with my dad, oh (smiles – looks around). We both try to be funny a lot (laughs). *Yeah.* Um (pause) we both prefer people to laugh at our jokes. […] And (pause) when he's angry I feel kind of scared.

Item 34
Child is able to take another's perspective: child readily refers to how others think and feel in the course of the interview; this understanding helps the child to describe and explain events in a coherent way.

Example:
(Mom cross) Do you mean like mildly cross or really, really cross? *Whichever.* I had this bag full of stuff in my room for ages and I'd never bothered to unpack the stuff in it for ages, from holiday from a few weeks ago. She said like tidy your room as well, cos it got quite messy….so she got quite angry and she'll make me do things before she lets me do things that I enjoy. *Recently?* I still haven't done it yet, I don't think that happened quite recently. *Last time told off?* Well it was actually about the bag but I still haven't done it, she said that I should have done the bags before I went on our computer with my brother, so she told me to do my bag, but then she said oh just go on the computer she'll do it later. *You feel?* Sometimes feel a bit cross, cos I feel cross with myself, I feel why didn't I do that, I kind of want to do it for my own, but sometimes, I don't know, I don't feel like it. *Feel cross with Mom or self?* It's both really cos I feel cross with my Mom cos I feel like I'm confused cos I don't know why she's telling me off, then I figure out what she's trying to tell me, and then I know how she feels and then I'll try. *Know why at first …mom feels?* I think she might feel sad cos she brought us up to be tidy and nice people, but we do things like that she gets annoyed cos she want us to be good.

(Dad fun) Its quite good fun being… my mom's a bit frail, and, (pause) sometimes I think it's more fun to be with my dad, cause I mean, he...sometimes I don't like being with my dad either, and I prefer to be with my mom, cause, um, my dad, sometimes when I bang my toe or something, he laughs, and I don't really like that. I think he's laugh…I know why he's laughing, he's laughing because he thinks it looks funny, what I did, but, um, I think, I may think I'm hurt and if he laughs at that then I feel a bit…it's a bit like he's hurting my feelings. (pause) and sometimes, sometimes, well, when I was learning how to ride a bike, um, we had the video camera, we were borrowing it, and he told me to drive, to steer into a bush (smiles) so he could film it, and I did. And he laughed, and I understood why he laughed, because it's meant to look funny. But I actually banged my knee on the wall, and I started crying, and um, he, kept on laughing, cause he thought it was funny, and I told him what had happened, and then he realized.

Item 35
Child values accuracy: honesty in reporting relationship experiences: child works very hard to think of what it was that actually happened in the past; the child is keen to get the interviewer to be able to 'see' what happened and get a sense of what it was like; child does not make short cuts in describing and does not seem to skip over details.

Example:
Um, yeah. *Who?* Granddad John. […] *Remember?* Uh yeah, uh we visited him, he was in hospital, he was up in this hospital and he had all his machines around him, and um while we were at school, they said to us that he'd had a heart attack, my Mom and dad said he'd had a heart attack and died. *Felt?* Felt quite sad, and me and my sister was crying. *Do?* Um, we asked if, um, (pause) we'd asked if he really died (rubs eyes). They said 'We're not joking'. And then we started crying and then we asked if we could go and see him. They said no coz he's like um where they um are in the place where they take them, I don't know where that is. But. *The mortuary maybe?* Yeah. *They said no?* Coz um they probably put him in the mortuary. *By yourself when crying?* No, we were all in the car, um like on the way home from school. Coz we had to take this girl home. Um, we took her home, and then they told us. And (rubbing eye) we were cuddling our parents. *Felt?* It (pause) it was sad because um (long pause) he was a very (pause) he was very um nice to us when we slept round our Nan's house, and he was very fun to be with coz he'd play um, if I was on my own with him, we'd probably play cards or dominoes, and things like that.

Item 36
For each question, child pursues "story line" with confidence and determination (narrative is shaped by overall affective theme which makes the narrative interesting and engaging to the listener).

Example:
(Mother – Feels safe with her) Because she's a grownup and sometimes I don't feel safe without a grownup and I know no one will hurt me when I'm with my Mom. *Example?* When I was in Brazil, cause my Mom is from Brazil, but she speaks very good English cause she's lived here all her life, cause they said in the place where we went that you should keep safe because people can rob you and stuff and I felt safe with my Mom.

Item 37
Child can describe negative emotional experiences with relative clarity (sufficient detail but also succinct); even very difficult interactions or patterns can be discussed with interest and in a convincing way.

Example:
(Dad-Stern) *Example?* When I think, I can't remember what I'd done, my mom was telling me off and I'd had enough and I started to walk away and he said don't walk away from your mom, and then he was really stern. *Say anything else?* Afterwards he spoke to me, and he was quite stern then but he'd sort of calmed down a bit. *Say?* He said you shouldn't have done that, do you understand what I'm saying, do you know what you've done wrong…I like the way he talks to me cos I don't like it when people shout. *He talks to you?* He sometimes shouts a bit and then he calms down and comes and talks to me and I like that. *Feel?* It became more clear and I understood it and it was good.

Item 38
Child appreciates that s/he needs the help of others and makes reference to this (in matter of fact manner); does not just present competencies or inadequacies.

Example:
(Child-Upset) *She helps you with homework?* Yeah say I'm stuck on a question, I um, I ask her to help me, and she like reads the text out for me, and it really helps me a lot so.

Item 39
Child provides convincing examples of parents soothing child: concrete and believable examples of the parent addressing/soothing/satisfying/comforting the child when the child was in distress or was otherwise upset.

Example:
(Child-Upset) And another time some boys were teasing me coz I had a cold and I had to keep going to get some tissues coz there were bogeys streaming out my nose. And I asked him [dad] about it, and he said when they make fun of you when you got a cold, make fun of them when they got a cold (laughs), as a sort of joke, and that made me feel better.[…]*And did you do that?* Yeah (laughs) except he had a really stupid haircut. And I said "oh who cut your hair? Did you do it yourself?" sort of thing (smiles). And then he realized that I was getting him back and that it was wrong to call me names and that. And he stopped doing it.

Item 40
Child has explanations for self and others' behaviour (running commentary): child goes through the interview with constant reference to reasons for others' behavior and own behavior; no additional prompts are needed by the interviewer to get the child to report why things happened or why individuals felt a certain way.

Example:
(Dad-Upset) *You feel when he tells you off?* I feel annoyed with R. [sibling], and I feel sorry for what I did and I feel that I want to try harder next time. *Dad feels?* I think he feels annoyed, he didn't want us to fight, he might be tired after a day's work and he doesn't want to have to stop the fight, he feels annoyed and cross. *Why?* Maybe cos he's tired really, he doesn't really want us to fight or anything, he doesn't like things like that, he wants us to be nice happy family, to work together.

Item 41
Child's body language or gestures indicate awkwardness about emotionally loaded subjects.

Example:
Mom/Dad-Upset) *Happens?* She shouts at me. *Shouts?* Hm-hmm. That's it. *Usually say?* Stop doing that or I'll … you. (Turns away to look at wall with back partially facing interviewer). *Feel?* I don't do it again. *Why she shouts?* Coz I've been annoying her. *Fair?* Ya (nods). *Know why?* Ya (nods). (Later in interview - Child is facing wall directly – fiddling with posters on wall). *Dad-Upset?* He just tells me off.

Item 42
Child gives general assurances to the interviewer that his/her relationships with parents (e.g. "it's just normal").

Example:
(Mom-Quite nice) *Three words?* (Playing with strand of hair – long pause) um, quite nice to be with Mom. And um (pause) oh (looks away from interviewer). *Difficult.* Hmm-hmm (in agreement). *What else?* (Long pause) um, it's um (pause) I don't know (shakes head) I can't think. *Quite nice – example?* It just does. *Sorry?* Um I just do like being with my Mom. *Like being with her?* Yeah. *Specific time?* Um (shakes head) just like (grimaces) all the time. *Not a specific time?* No (playing with hair) not really. *Think of another two words?* No. *What's it like?* It's just (long pause) it is like (pause) normal (shrugs). *Normal?* Yeah.

(Mom – Normal) *Example?* Um (pause) just normal. Like, like what normal families do. *Example?* Like they go to the park, they talk together. They (pause) they do just the normal. *Just being together?* Yeah.

Item 43
The descriptions of what happens with the parents seem full of superficialities and platitudes, apparently avoiding specific descriptions of interactions (e.g. "it is always fun", "she is a great mother").

Note:
The child does not give any examples to support descriptors and there is lack of substance; this should be given a high score if it happens repeatedly

Example:
(Dad-Fun) *Word to describe dad?* It's fun. *Example?* (Long pause) uh (long pause, shuffling in chair, playing with shoes). *Can you think of a time?* No. *Another descriptor?* (Long pause) no (shakes head).

Item 44
Child refers to parent or parent's role in a very disrespectful manner (without intense anger), e.g. "she (mother) is completely useless".

Example:
(Separation) *Feel when you see your dad again?* Happy. *Mom?* Bored. Really bored. Feel sick. I'm dead pleased when I see my dad. I'm dead bored when I see my Mom. I have to pretend that I'm happy to see her.

Item 45
The child describes negative events (e.g. getting hurt) as though they are no problem, that they are unaffected by them.

Example:
(Dad-Upset) (Child turned with back facing interviewer – child is facing wall directly – fiddling with posters on wall). *Dad-Upset?* He just tells me off. He goes 'Sometimes you can be a real doughnut' and I say. *Feel?* Fine (shrugs), I don't mind. I've been called worse names. *Why he does that?* He's annoyed. *Know why?* Ya. *Fair?* Ya.

Item 46
The coder feels that the child's response seems false, unconvincing (e.g. "I really like being with my Mom" is accompanied by a sad look and no example).

Example:
(Dad-Like being with him) (looks very nervous and unhappy) *Three words?* Same as my Mom. *Word?* Like being with him. *What else?* (Long pause) Don't really know (shakes head – grimaces) no. *What like?* (Pause) don't know (shrugs).

Item 47
Child offers only 1-2 adjectives to describe the relationship with at least one of the parents.

Item 48
The examples and adjectives the child provides tend to be very 'concrete': physical descriptions ("he does lots of DIY"), or factual, (superficial) list of events (the child mentions trips with parents, with no elaboration).

Notes:
- *DIY stands for "Do It Yourself." Some examples of this are fixing things around the house or decorating the house.*
- *Concrete refers to the child providing only rudimentary episodes for the relationship with their parents. For example, the child says "Mom's really nice" and to support this he/she says "she takes me shopping."*
- *The description of a behaviour that is given is not associated to the relationship between the parent and the child. The examples or adjectives provided do not show any interaction between the parent and child. The activity described does not relate to the child, for example the child says, "Mom works a lot".*

Example:
(Mom – Fun) *Example?* When she's not doing any work. And when she's not hoovering. *OK.* And when it's after dinner and we, after dinner, my Mom and me sometimes play Monopoly. *Example?* (Shakes head). *So just generally when she's not too busy, you play monopoly?* (Nods).

(Mom- nice) I go, I go lots of places with her. *Where?* Sweetshops to buy some sweets. *Last time?* Umm, I don't really know. A few days ago or weeks ago? (sucking thumb) I think it was weeks ago.

(Mom – Takes me to big places) Other words? Um (pause) I like it when she takes me to a big places (shakes legs), like a fun place. Last time? Legoland. That was about three years ago. And World of Adventures I've been there four years ago. Recently? Um (pause – pulls on shirt) well I've been to quite a lot of places. Any ones in particular? I've been to (counting on fingers) Legoland, World of Adventure, Toys 'R Us, Sports Division, and (pause) shopping centers and (pause) um toy shops and sweet shops and that's all. Seven things.

Item 49
There are gaps before most answers, during which the child seems to have trouble thinking of anything to say.

Example:
(Mom-Upset) *What happens when Mom gets upset with you?* (No response –playing with back of shoes). *Last time?* No. *Does she ever get upset with you?* Sometimes, now and again, not really all the time. *Example?* (Long pause) I don't know. *Last time?* Uh (long pause – looks up) no.

Item 50
Child avoids eye contact with the interviewer through most of the interview.

Item 51
Child does not show interest in or awareness of the thoughts or feelings of his parents (e.g. that they may get angry or worried).

Example:
(Mom/Dad-Upset) *What happens?* Sometimes I stay in my room. *Uh huh.* That's it. *What does she say?* 'Go to your room'. *Last time?* (Shakes head). *Remember?* (Shakes head). *No?* (Shakes head). *Recently or long time ago?* A long time ago. *What happened?* I can't remember. *Feel?* I feel sad. That's it. *Mom feels?* (Pause – shrugs) I don't know. *Don't know?* (Pause - shakes head) No. *Why does she send you to your room?* So I won't play anything. *Uh-huh.* (Grimaces) I don't know anything else. *Anything else?* (Shakes head). *No?* (Shakes head). *Why?* (Shakes head). *Why?* (Shakes head). *Do you get upset?* (Nods). *What does dad do when he's upset?* He just sends me to my room. *Just like Mom?* (Nods). *Feel?* Sad. *Anything else?* (Shakes head). *Dad feels?* I dunno either. *Why he send you to your room?* I don't know (long pause). *Why does he tell you off?* (Shakes head). *Fair?* (Nods). *You do.*

Item 52
Descriptions of relationships and events are empty of content or very bland (e.g. "It's OK", "Like everyone else").

Note:
This is often observed at least once or twice in any interview. Give this item a high rating, only if it represents the pervasive style of the child throughout the interview.

Example:
(Mother – Quite Nice) *Why?* Just does, I like being with my Mom. *Special time?* All the time, not really.

Another word? Don't know, Can't think. *Another 2 words?* No, like to be with her, it's normal. *Normal?* Normal to be with her.

(Dad- ok) *Time when you felt ok being with your dad?* Not really. *How about when you saw him yesterday?* It was just alright, ok, alright.

Item 53
Child seems unemotional even about subjects which would usually be enjoyable or upsetting.

Example:
(Separation) *Write to your parents while away?* Yeah, but … *Say?* I said 'Have a nice time.' *Had they gone on holiday also?* No. *Like when you got back?* It was funny because, it was strange because, I had been in a new bedroom, at Butlins. But then when I came home then it was all strange colors, as I was used to the ones in Butlins. *What else was it like?* Um, I don't know, strange. *Like seeing Mom and dad?* Um, I don't know. Nothing.

Item 54
Child seems bored or resentful about the interview (e.g. sulky), appears to want to get the interview over, or is irritated about being asked personal questions.

Example
(Dad) *Three words dad?* Er, nothing really, 'cos I never get to really see my dad really. *When?* Don't really think about him. *I don't believe you.* Can we skip this? It's getting kinda boring.

Item 55
Child shows non-verbal signs of discomfiture, e.g. often plays with hair, and/or rubs eyes, while looking anxious.

Example:
(Child-Ill) *What happens?* What? *When you're ill?* (Leans back in chair and starts rubbing eyes) Can't remember it's happened to me. *Never been ill?* No. *Must be very healthy.* (Child frowns and continues to rub eyes). *Find questions hard?* Yes. *Can I ask you a few more questions?* No, they'll probably be as hard.

Item 56
Child does not help the interviewer by volunteering information; interviewer has to solicit all information directly and explicitly ("pulling teeth").

Example:
(Mom-Upset) *What happens?* Nothing. *Ever get upset?* (Shakes head). *Can't think of a time she was upset?* No. *Or cross?* No. *Last time you did something she thought was naughty?* Um (pause) I don't know. *Naughty things you might do?* Beat up my brother. *Beat brother?* Yeah. *Younger than you?* Yeah. *Brother's age?* Four. *Do to him?* Um, punch him. *Punch him?* Yeah. *Mom do?* Then she'd tell me off. *Say?* I don't know. Shouldn't do that. *What?* Shouldn't do that. *Might say?* 'You shouldn't do that'. *You say?* Um, I'd just go outside. (Pause). Sometimes I just go in my room. *Happens then?* Nothing. *By yourself?* Yeah. *Come out?* When sometimes, when I don't know. Sometimes I go out and watch TV after. *Who with?* My brother. *Where would Mom be?* She might be making dinner or something.

Item 57
Child says he or she cannot remember events or examples.

Example:
(Mom -Happy) *Example?* (Pause). No, I can't really. I can't remember. *Example?* I can't…

(Mom -Hungry)…*When?* I've forgotten….

(Mom -Upset) *Can't remember. Say? Can't remember. Last time? No, not really…*

Item 58
Child avoids talking about attachment aspects of experience, e.g. instead of focusing on interactions with attachment figure, he/she focuses on impersonal aspects (e.g. child describes having meal with parent and only talks about the food).

Example:
(Mom) *Word to describe relationship.* No, I don't know any. *Last time with Mom?* Yesterday. *What happened?* I was playing football outside. *Mom there?* No. *Like without your Mom?* Um (pause). *Last time with Mom?* Um (pause) I don't know. A bit yesterday, when we had dinner. *Had for dinner?* Um, had (pause – smiles) um some um some vegetables. *Fish balls.* Vegetables. *Anything else?* And some sauce. *Who was with you?* My brother and my sister. *Mom?* What? *With you?* Yeah. *Dad?* No, he was at work. *Feel like all together for dinner?* Eating food. *Everyone eat all their food?* Yeah. *Eat all yours?* Yeah. *With Mom this morning?* Yeah, I saw her this morning. *What was happening?* Had my breakfast. *Mom having breakfast too?* No she doesn't have breakfast.

Item 59
Child appears to assume that he/she is able to deal with most things by him/herself.

Example:
(Child hurt) *Time?* I'd badly grazed my knee, I slipped on the last step at school under the tap which was about to be switched on. *Painful?* Yes it got very stiff. *Do?* I just got up *Help?* I just left it.

(Mom-Upset) She shouts at me. *How do you feel?* Scared. *When you are scared what do you do with those feelings?* Keep them to myself. *Do they come out in any way?* No.

Item 60
Child's responses appear to be the least possible in answer to question, not elaborated.

Example:
(Dad-Upset) *What happens?* He doesn't. *Doesn't get angry?* Just sometimes. *What happens?* I forgot. *Remember how you feel?* (Shrugs) No. *He feels?* (Throws head back). No. *Fair?* Yes. *Know what you've done wrong?* Yes. *Remember last time?* No.

Item 61
The interview is unusually long (more than 40 minutes, not accounted for by interruptions and/or additional caregivers).

Item 62
The interviewer finds it difficult to keep the interview moving and on track, because EITHER replies are vague and confused, OR the child gives extra or detailed examples of bad or wrong things happening.

Example:
(Child's response to this question is 9 minutes long – keeps giving negative examples)
(Child-Ill) Well, coz I live with my Mom, my Mom just like (pause) um, if I'm, I mean I'm usually ill at night, and it's usually a one day off, if I just throw up in the night, but sometimes my Mom has to ring up the next day to her work, and say 'I can't come cos Georgia's ill', and then she has to ring up school. […]once it was really funny when (smiles), my Mom is petrified of my headmistress, because I had this massive abscess, and my face was like a football, it was out here (demonstrating with hand), and my Mom took me to school and the headmistress barked at her 'take her out of school immediately' it was like 'ring your dentist right now' […]And then um, I think, probably, last time I went to hospital is when I cracked my eyebrow open. *What happened?* The scar there (pointing to eyebrow) I fell out of bed. I know it sounds a bit stupid but there was this big side-board, like that and it was really sharp corner, and I just fell out of bed, and I went 'Whack' on the corner of it. […] and she didn't even take me to hospital until 10 o'clock the next morning. […]

Item 63
Child expresses anger or sadness that is either out of proportion to the events being described, or is the predominant feeling expressed in the interview as a whole.

Example:
N.B. child keeps referring to how much he dislikes his father for most questions, giving examples of negative events concerning father.
(Child-Hit) Yes much, not with my Mom but with my dad. He actually threatened me one day, not with a weapon, just with his hand. It's very comfortable this chair. *Actually hit you?* Hit me. *A lot?* Yeah too much. And I have bruises all over my leg and up my back. He'd give me the stick and that was really painful and I'd get really red legs and the belt that was really painful […]. *How felt?* Very unhappy and sad I felt like I was going to kill my dad I really wanted to get hold of his neck but obviously I couldn't do that because I'd get put away and charged so that's why I didn't want to do it. But if they wasn't allowed to charge a child or anything, I would have done it (nodding) I would have.

Item 64
Child wants the interviewer to agree with his/her view of situations being described, by expressing indignation or unhappiness (e.g. enlisting sympathy and support).

Example:
(Mom-Annoying) When she's like, […], feel sad inside like she's not a normal parent, can't think of the words she's like, and you know like. Erm why can't she be like normal parent at times? You know. Why does she have to shout at me more times than once in a day, you know when it's not really my fault? […] She's all nicey-nice and she's all positive about me, she's a nice person, But she can get angry and then it's totally different with you and you can't imagine it really because it's amazing your changing from one to another so violently. Do you know what I mean? Like violently and then shuuu (moving arms as if a switch) like that, you know. I really love them inside very much but I really hate it when she is like this. I mean why is it happening to me? […]

Item 65
Child's affect tends to be unvarying and negative throughout the interview – e.g. vague, angry, miserable, annoyed, and anxious.

Example:
(Dad cross) *Example?* This is sort of with my Mom and my Dad, when we were coming back from school, a boy called Thaddeus kept tickling me and I went like that (throws head back) and I banged his nose and he had a really bad nose bleed and I didn't know it, and I thought it was partly his fault cause he was tickling me and my Mom was really cross, gave me a piece of toast and water for my supper and then she said I don't want to see you again till bedtime and I went outside and sat on the doorstep cos I was really cross and then I thought I wonder what she'll do when she finds out where I am, so I went back inside, so I went back inside and went up to my room, sat there listening to a tape and she called me down and I couldn't hear her cos the tape was on, and she got really angry, stood in middle of room. And she got really really angry with me. And it went on for a month and a half, I had to keep sitting in the front all the time, it was really annoying. I thought why is it going on for such a long time… I heard her phoning up Thaddeus's Mom and she was like "is he alright is it still hurting". Then I heard her say "I'll give him bread and water"…he was getting all the support and fuss and I just got big punishment for something that wasn't really that serious

Can you remember a time when your dad tell you off specifically? When I was little, and I drew the curtains, and the curtain rail fell off and smashed a lamp, my Dad was really angry and we didn't get any pocket money for a month, no TV for a week, me and my sister were quite upset, we talked to each other about it…now my sister's like get out of my room, like good riddance, I've gone to boarding school…she doesn't really like me anymore cos she's gone off to boarding school and has made tons of new friends. I see her and she's like 'oh I just remembered my brother'…

Specific time when you didn't think it was fair your dad got cross with you? When he goes down stairs. and I say horrible things about him, say I'll never speak to him again, he comes up and smacks me again and then I burst out crying again, and then he comes back about 10 minutes later and I haven't calmed down and and he says, "shut up or I'm going to do something really nasty" and sometimes I don't understand why it keeps going on and on.

(Child upset)
Example? it's really annoying in swim lessons sometimes, cos he said, "Remember in year 4 when we went up to Phil's office and you went home and told your Mom that 'Mark's picking on me, Mark's picking on me' *(imitates teacher's voice and repeats phrase*) and he said it in a really horrible creepy voice and he said it as if he was trying to tease me. It's really annoying. And he's often being really horrible and rude. And he was like "Peter thinks I'm a big ogre" and "once it's done it's final".

Item 66
The examples offered by the child in answer to one question seem to involve several negative aspects, e.g. the child is asked for an example of being separated, and brings in being ill, parent being upset with him, etc.

Example:
(Child-Touched) Yes. *What?* I got smacked in the bum and everything, hit here (pointing to side of head). But nowhere else. *Touched other places?* Yeah, on my legs. But my dad has been hit by me in a private place, he was trying to hit me and I just kicked him and he was in real agony and I had time then to ring up the cops. And I was really embarrassed in my old school in year one because he tried to snub my Mom in front of the whole class.

Item 67
Child tends to describe most relationships in care giving terms, e.g. teachers, friends' parents, are described as looking after or failing to do so.

Note:
Everyone the child interacts with or meets is assessed as a potential caregiver; this is the dimension of every relationship that the child focuses on throughout the interview.

Example:
Can you give me an example of why you said it's secretive to be with Mom?… My swim teacher doesn't like me very much…I was just looking at the boy next to me, well he wasn't really doing anything naughty and the swimming teacher said hey you were talking and I was like no I wasn't!... and he gave me a sanction sheet, which is a sheet you have to write out a whole page on why you were naughty, how it affected the class and I took it home and I was like, I'm not going to write this out, this is really unfair and I went home and told my Mom…*Mom say?* She was quite cross really, cos it's happened ever since I've been in school, he's not been particularly nice to me. She stood up for me [when I went to speak to the Headmaster about it], she said "Mark's really gone too far; I don't think it's very fair".

What happens when you are ill? I go downstairs and tell my Mom and say I've got a headache or a tummy ache and sometimes she's quite cross and won't really listen when we were in Wales. I felt really ill and had a really bad tummy ache and she was like 'Oh, stop moaning' she went downstairs to have breakfast and I was still upstairs in bed in pain, she said she couldn't give me any medicine cos I'll throw up and just then I did.

Something really awful at my old school, I felt really ill, I had a really bad headache and a really bad tummy ache. And I said PLEASE can you take my temperature, I feel really bad? And she said 'in a minute.' (he imitates voice of teacher)…They never took it and I was really cross. Oh PLEASE it really hurts me, 'in a minute.' And I went home feeling really ill and my dad said you have a really high temperature it's 102.5. And I said, "oh crikey, why didn't the teachers take it at school?"

Item 68
Child holds the floor and makes it hard for the interviewer to find space, EITHER child gives multiple or long examples, OR the child fills gaps with 'place-holding noises', such as "mmm… I mean... well...", in other words seems to be intending to say something but does not come up with fully-formed ideas.

Example:
(Dad-Upset) *How did you feel?* Erm I can't really remember um (pause) um, I can't really remember, um, um probably um (pause) oh yeah, maybe a little bit embarrassed little bit not really annoyed a little bit annoying you know coz I wanted him to come up with me not annoyed but like waiting-ish you know what I mean so[…]

Item 69
Child addresses the topic, but gives EITHER over-detailed or multiple examples, OR wanders off from the story when anxiety-provoking situations are being discussed.

Example:
Parents-don't love you? Erm erm no not really. Could have been … but maybe not now um, (looks up) there's a crack in the ceiling oh, the cleaner must have cracked it. Anyway … somebody … *It's ok.* What was it, sorry? *Felt unloved?* No but erm its not coz I don't want to think about it. Um one time I think we

all like I can't remember maybe when I was younger when I didn't understand but I really can't remember so you know. *It's ok.* Sadly not for a long time really so you know.

Item 70
Examples are told in an overly dramatic way, histrionic or drawn out.

Example:
(Child-Hurt)
What happens when you hurt yourself? In school you mean. *What happens?* Do I have to do the hurt way coz I have not experienced that for a long time actually but anyway it's good that I haven't. *Is good.* Erm coz when I was little I used to like fall over quite a bit and make a hole in my tights so yeah I remember that…I think I just got up and rubbed my knee a lot of the time (slapped herself on cheek) but it's alright now you know what I mean I just like wake myself rubbed it better and cared for myself up and forget about it you know what I mean coz I'm not that easy to forget about things in the sense I think my friends try it hard to not upset me, like that but I feel it quite hard to really like that because I can take things like I do at home. Erm this is much better than therapy (laughs) without somebody questioning me all the time you know like all constantly and weird and like minutes of silence. Hate it, absolutely hate it, hate it. I hate her.

Item 71
There is an impression that the child needs looking after, EITHER the child says that he/she is not being looked after properly, OR there is a feeling of neediness communicated by the way in which events are described (the child may seem sad or lost).

Example:
(Dad – Cross)
Time? Today, I kept on doing handstands and sometimes I slipped and fell on my new dress and he goes "you can get grass marks and I did it again and banged my head and he goes "Hannah you'll get stains" my head hurt and I cried and he goes "look Hannah your dress is getting filthy" and I go "it's not the dress that's hurt its my head" and then I went and sat down and he goes "Hannah get up" before he said "Don't get your dress muddy or I'll make you go home and change it" and I didn't think that it would get dirty under the tree and he goes "Hannah you've got dirt on your bum go back home and change" so I had to go. *What he say when you said head hurts?* Nothing. *Feel?* Sad cos my head hurt and he wasn't paying any attention to that he was paying attention to my dress.

(Child hurt)
Most of the time I get up but sometimes it really hurts, one time if fell off a net that you can climb up and I fell off it and it sort of went head first but then I didn't really sprained my ankle. *At home?* In park *Happened?* It really hurt but again my dad didn't really take much notice. I've fallen down stair quite a few times but not hurt myself badly *Help?* My Mom or my dad ask if ok.

Item 72
Child implies blame to others (notably the parents) for bad things happening, OR expects that things will always be bad.

Example:
(Mom-Upset) *Feel when Mom gets cross?* Upset inside but normally I'm quite a sensitive person like erm upset because when she's like, you know, coz off she's goes all red and I'm worried about her heart, I'm so used to it now and like she goes (makes noise) you know what I mean? And it's her fault it's not my fault and it's normally not my fault. But if it was my fault, I can't coz I don't think of it coz it just doesn't apply to me so I don't think of it, you know. *Mom feels?* It's quite obvious from her face angry, frustrated, annoyed maybe, you know, upset with me and angry and trying to let all that anger out, grrr, you know it's like 'Why are you doing this?' coz its normally not my fault I can't think of it.

Item 73
The listener cannot easily understand or follow what the child is saying.

Example:
(Mom-Funny) *Why funny?* Makes people laugh. *Who?* Rita. *What does she do?* Makes jokes and things. *Last time?* Yesterday she just kept dancing dancing. *To music?* Yeah. *Party?* Yeah it was a party, and she made this chip. But she cut it out as a star chip. Then you put it in and she cooked it. Then someone got a star chip that was the birthday girl. And she ate it.

Item 74
The interview is consistently bogged down, (e.g. the interviewer is flooded with irrelevant details, the child's answers keep wandering from the topic) and the interview ends up a little bit like treacle.

Example:
(Child separation) *Is there anyone that you cared about that isn't around anymore?* (pause) no but you know what my cousin called Ethan had a hole in his heart. He was in hospital, and he had all these tubes in him, and he had a stitch, they cut his body right open, from here and stitched it ***(is he a baby)*** he's only about eight months really cute (…) *Ok, um* But when I'm fifteen, he'll be eight (…), coz he was eight months, and I'm eight, but when I'm fifteen, he'll be eight so I'm about five, and I said to her can I baby sit him, when he was a baby, and she said 'guess what, just think this in your head', and I said 'oh my god, I'll be fifteen, and he'll be eight, I can't baby sit when I'm baby, he's a baby.' And she said 'don't worry'. *Maybe you can baby sit for someone else.* Yeah, a baby. *Anyone else who moved away that you don't get to see anymore?* Don't get to see my old teacher anymore…

Can you tell me about when your dad moved out? anyway he didn't move out, we moved out … in the morning I was so upset … And every morning my daddy and Mommy would come and this time only my daddy came and I said 'why isn't Mommy coming in?' and he said we're splitting up and I didn't understand so they said well we don't love each other anymore and my daddy found a new girlfriend and daddy didn't tell Mommy. And also at Christmas time, and I forgot completely about it, and I felt this heavy thing on my foot and I woke up, and there was this enormous stocking at the end of my bed and I was going (shows shocked face) so I stayed until I said, 'Mommy there's a stocking at the end of my bed' and I was like pulling everything out and then there at the bottom was this lovely vest and I saw all these nut crackers, and I was going like (imitating cracking nuts with teeth) trying to bite them and there were loads of oranges and then when we got downstairs, I … all my presents. *Feel when you had to move to the new place with Mom*? Really sad

Item 75
Child offers a few examples in answer to several questions. The child seems to have difficulty in remembering clearly and tries to go back to previously described events.

Example:
(Mom – upset)
Happens? She like says she's got to stay in bed for quite a long time and. *You have to stay in bed?* Yeah. Well, I don't, I don't mind. *Don't mind?* Because on my way to my bedroom I was collecting toys. So, on the way there, so I can play in my room

(Dad – same?)
Second word? (Long pause – looking away). *Hmm?* I don't know any other words. It's just the same as my Mom. *Example?* When I go shopping it's the same.

(Dad – upset)
Happens? He does the same thing. *He tells you to go to your bed?* Yeah. And I do the same thing with most of my toys. …

Item 76
Child describes people or events at length but despite this, the picture remains vague.

Example:
(Dad – close) But when he's like erm angry and shouts, then I like, in a way get emotional maybe sometimes, and erm gets more upsetting in a way coz erm he's like closer to me in that way, so it's, I'm like, more surprised and erm that's it. I get, and then sometimes, this is the last one probably, erm he threatens to like, a very few times he used to do it a but he never actually did it and he just like went like that, and he never actually did it and he plays around with me more and he's more smiley. I feel better about him looks wise you know what I mean, coz he's like in his forties and my Moms fifty one I don't really like, sorry, but I don't really like how my Mom looks. Erm I think she looks old and all the other Moms look young and their probably (…) you know and she's quite old for a parent of my age and my dad is younger and I don't really like his tummy. Me and my Mom are trying to get him down that when we stick together and help through really, and that's when we're together and dad and Adam are like all meat and chunky. We got him a tummy cruncher for father's day and I also gave him a present later he was probably depressed inside and then I gave him a nicer one which was a booklet with a little floppy ruler and a notepad, open it and its got a notepad with papers inside, for all his meetings and it folds up and its silver and erm I think when we talk about things, like grown up things, and you know like, like, like you

know in Jewish we go to the (…) and its very pure and you all have your own little room and this lady doesn't see you at all coz we visited there as a trip just the girls, and we didn't see anybody of course and erm and we just saw the little pool and this woman came, pregnant straight after, because she couldn't have the baby, and then her doctor said she couldn't go in the water she was allergic or something to it and the lady persuaded her said it was fine and she went in the water and the lady went in with the swimming costume but didn't really look at her you know just and reported her three weeks later she was pregnant. And I talked to her about going to her have you ever gone to a (…) coz there's a separate men's one and there's puberty and stuff like that and can I just say I'm all shy and I get a bit funny and tickly I just wanted to share that with you. *Can you think of a time when you felt specially close to him?* Erm all the time really when I cuddle up to him, this is a hard one there are lots of times buts its gone a bit when he kisses me goodnight or sometimes he (…) a bit coz he listens to Mommy but he normally listens to me and he does it and when (…) hedgehog but a hedgehog is a bit more furrier but… when he's there and he's joyful trying to do things for me but he does tell me off a few times like last night I had to go upstairs and get (…) s bit like I said (laughs)

Item 77
Child speaks as if lost in the narrative, e.g. EITHER as though complaining to or arguing with the parent, OR as though child is so caught up in what is remembered that he/she cannot take any perspective.

Example:
(Dad-Awful) It's kind of rewarding because I like spending time with him and when I do go it's actually, sometimes it's awful, sometimes its good but it's rewarding most of the times. *Why awful?* Because last Monday I went all he did was sit at the side of the room and he didn't pay any attention to me and then step sister had to go outside, it was so awful. "I come here to see you and all you do is sit down all day" some attention and what was the point in me coming and he asked "do you want me to take you home?" and I was like "no" but what's the point, he just shouted at me, he just kinda said "do you want me to take you home", "I don't like it when you nag like that" I don't like it when he does that. *Father feels?* No response (shrugs).

Item 78
Interviewer has to supply much of the organisation to the interaction in order for the child to stay on track (e.g. prompting for information or clarification, reminding the child of the question, or persuading him/her to move onto another subject).

Example:
What happens when dad gets cross with you or tells you of? Shouts a bit and has like a deep voice and you know, I feel under pressure so I do it obviously and that's really what happens he's got a deeper voice so shouting is not really what happens. I can't do it coz I haven't got the voice, like men have obviously got different voices so when they get older the thing that goes up there in their throat, I have no idea how it gets there. And erm and then like they're not he is shouting a little bit, not as much as Mom obviously, because of the deeper voice it makes it louder. *Last time he got cross?* Last night erm yesterday, the day before, the day before, the day before. *Let's look at last night for example how did you feel?*

Item 79
Child has difficulties focusing on and answering the question (e.g. the child appears to have difficulty in finding words; child has difficulty in expressing an idea).

Example:
(Describe relationship with Mom, three words) I think she is quite annoying but I don't want to put it as one coz it's a bit too (large sigh) can't think of the word, hatredish. And I'm not I don't really inside think I'm like that. I don't really feel like that sometimes when she's a bit like that. I don't really get annoyed but it puts me down and makes me feel upset inside and I'm like when she's shouting at me I get upset but I'm used to it, and then I sometimes I think she's not like a normal parent erm coz it's all happening to me and I don't really have time to think but like (coughs) she's like (laughs) *That's great.* When she's like, I don't do this most of the, I don't draw … toward me, shut up…, can't think of the words she's like…

Item 80
Child has great difficulty in thinking about experiences with the caregivers.

Example:
(Mom-Upset) *What happens?* Okay, so it's when my Mom gets cross (frowns) what happens. Erm well it depends what it's in *if you done something wrong* It depends on what wrongs I've been doing. *(Last time)* I can't I've got a hole in my head. Sorry I've done it loads of times and I try to think of things. Not

necessarily sad things, happy things or quiz games or whatever. *A time it's happened?* I can't think of it sorry it's just too hard. It's really hard for me and it's hard for you coz your trying to think what to do and it's like jam.

CAQ Instructions

1. Watch each interview along with its verbatim transcript.

2. Make sure the 80 CAQ items cards (see Appendix 1) have been cut out individually. After watching the video, read each of the 80 items cards and place them in three piles (most characteristic, neutral, and most uncharacteristic of the child).

   When sorting each card keep the following questions in mind:
   - **Would you use this as a characteristic feature of the child?**
   - **Think of describing the child to someone who doesn't know him/her?**
   - **Which items are most or least characteristic of the child?**

3. Sort the piled items again using the scale provided below (Figure 1) ranging from -3 (most uncharacteristic) to 0 (neutral) to 3 (most characteristic). As indicated in Figure 1, a fixed number of items are placed under each point on the scale (*distribution marker*), once completed this takes the form of a quasi-normal distribution. The 4 items you consider most characteristic are placed under the column with value 3 and the next 8 items considered characteristic but to a smaller degree are placed under the column with value 2; sorting should continue in this manner until the response matrix is completed.

   Notes:
   - The order of items under each marker is not important. All of the items placed under each marker (for example all of the 4 items under +3 marker) will receive the same score when coded by the CAQ program.
   - Freely shift the items within the distribution as needed to achieve a configuration that is representative of the interview.

4. Use the CAQ program provided to input your sorting for each case. This will yield the attachment classification and allow you to export your results.

5. Export your results and upload them on the website, using the File Uploader function.

6. Once you have completed the CAQ, fill in the brief questionnaire found on the website under the specific interview.

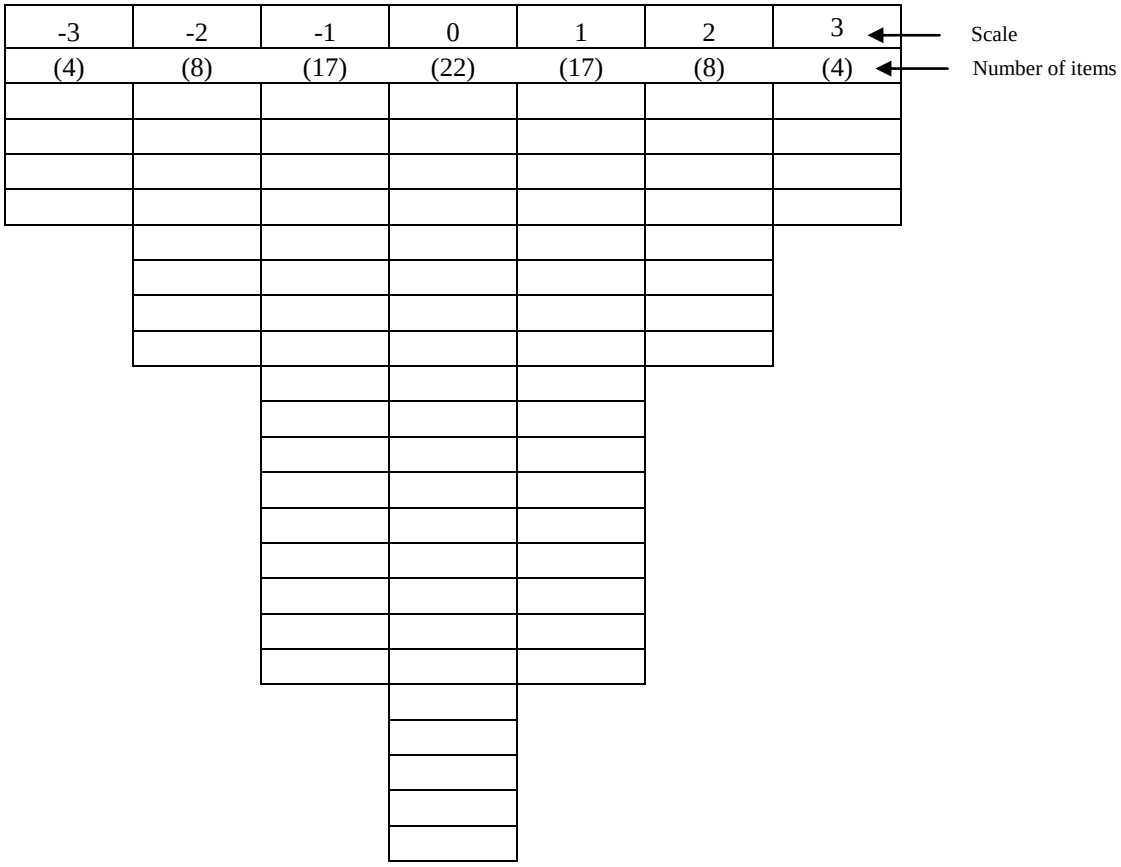
Important Notes:

- **When rating the card items for each child, do not focus on isolated occurrences of any particular verbal or non verbal behavior supporting the particular item. Keep in mind the questions mentioned above and the overall picture presented during the interview.**

  The only exception is if a child does one bizarre thing because it may be possible that a child is disorganized but displays episodic rather than pervasive disorganization

- **After each CAQ that you complete, please make sure to mix the order of the cards before you begin your next coding so that they are in random order. This is very important, so please do not forget this step.**

Figure 1. Quasi-normal distribution and response matrix for Q-sort items



CAQ Program Instructions

System requirements:

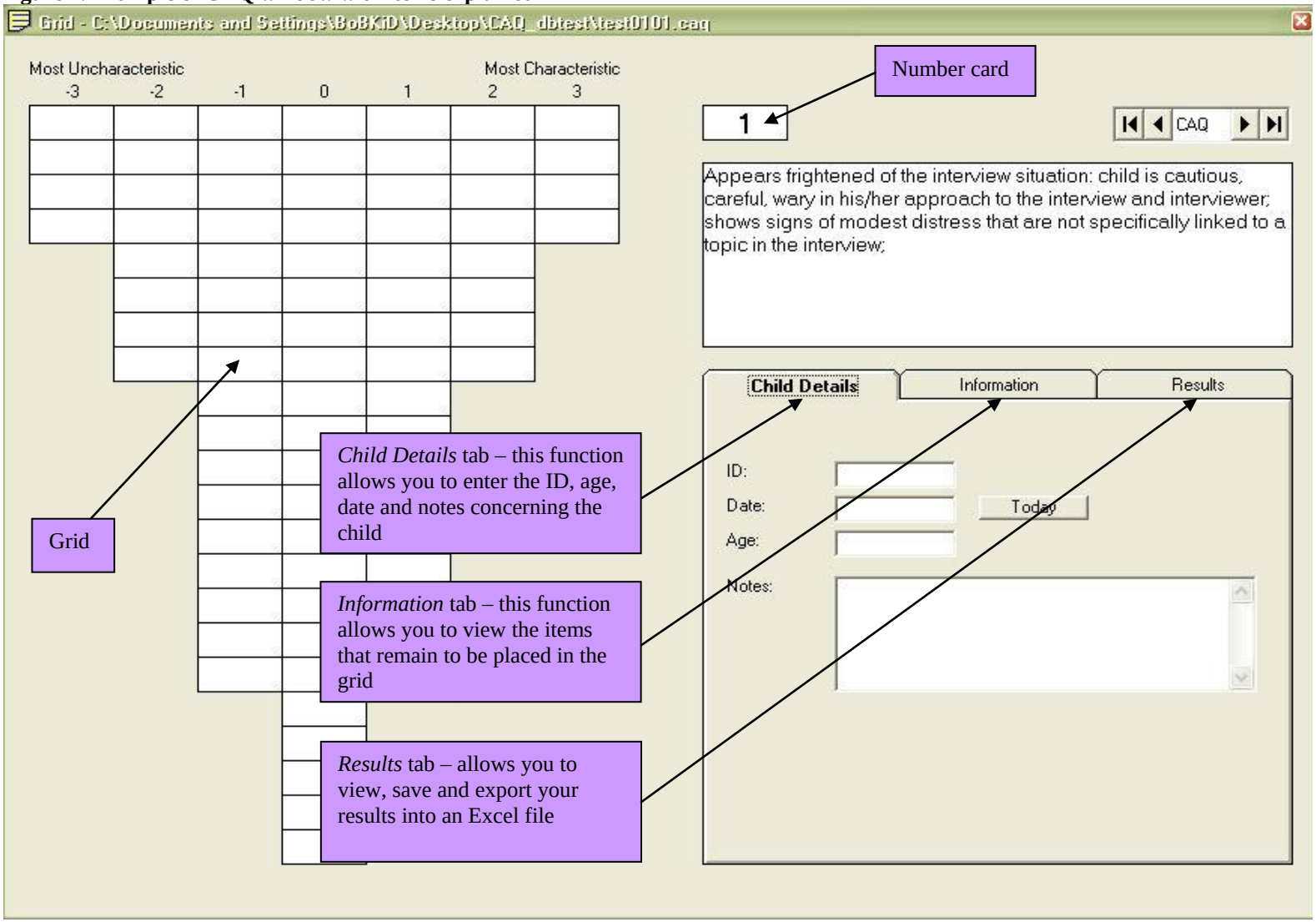
- Microsoft Excel
- Windows XP

Please note: This program will not work on a Mac or may work slowly a computer with Windows Vista.

Installation instructions:

1. Open folder labelled CAQ
2. Click on the icon labelled setup.exe and you will be guided through the installation process

Figure 2. Example of CAQ window with items explained



Scoring instructions:

1. Once your manual CAQ sorting is complete, open the CAQ application by clicking on Start > Programs Menu > CAQ > CAQ

2. Click on File > New > enter a file name for the case > click Save

3. Click on *Child Details* tab, to enter the information of the child (**Notes* can be used to enter any additional information about the child, this field is not mandatory)

4. Click on *Information* tab to begin placing items in grid

5. To enter the items into the grid, drag and drop the number card of the item into the relevant location in the grid

6. To navigate through the item cards you can
    a. Click on the arrows found at the top right corner, or
    b. Click on the number corresponding to the item card in the *Information* tab

7. To view your results, click on the *Results* tab > click on the *Get results* button. Three types of results are possible, these are:

    a. only one attachment classification yields the highest score, in this case the resulting classification will be displayed

    b. the child is scored as disorganized (e.g. this is the classification with the highest score), in this case the child will receive a main classification (disorganized) and a sub-classification (this is the classification with the second highest score)

    c. the highest score corresponds to two attachment classifications, in this case there are two possible results

        i. if one of these matching scores belongs to the disorganized classification, this will be assigned as the main classification and the other will be assigned as the sub-classification

        ii. if one of these matching scores does not belong to the disorganized classification, a drop down menu will appear for the coder to select the classification that best represents the child; this will be assigned as the main classification and the other will be assigned as the sub-classification

8. To export results click on *Save results* button and then *Export to Excel*

Notes:

- Do not forget to save your results periodically by clicking on File > Save; the program will not automatically save your results.
- By right clicking on a particular item in the grid, two options become available **Clear** or **Clear All.** The former clears that particular item and the latter will clear all items in the grid. Any cleared items, will reappear in the *Information* tab.
- Once the grid is complete, the *Get results* button will be activated, clicking on this will not permit any further changes in the grid.
- If you incorrectly drag and drop an item card into the grid twice, the relevant item will be highlighted in red
- As you navigate through the items, an item already entered in the grid, will be highlighted in red

Glossary

Idealization: child's representations of attachment figures are distorted in a positive direction

Relationship Episode (RE): any part of the narrative where the child describes an interaction between themselves and an attachment figure. Most REs would involve interaction with the child's mother and/or father. Some REs may include other family members, teachers and friends.

Clear examples of relationship episodes:
"My relationship with my Mom is good because we just like to be together. Often we will just have cuddles together because we like each other".

"My relationship with my Mom is dodgy at times. She gets angry with me when I have an argument with my brother and will send me to my room. A few minutes later she would call me and I would say sorry."

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Appendix 1

CAQ Item Cards

1	Child appears frightened of the interview situation: child is cautious, careful, wary in his/her approach to the interview and interviewer; shows signs of mild or moderate distress that are not specifically linked to a topic in the interview.
2	Child displays bizarre facial expressions, grimaces, unrelated to context of interview: child exhibits silly, distorted, or unusual facial expressions (i.e. it is more important that the face is silly or unusual and "put on" that what the actual facial expression is) in a way that is apparently out of context.
3	Child manages to unnerve or derail the interviewer: interviewer loses track of interview (e.g. skips section or repeats question or forgets important information child has provided), and discusses off-task topics (other than brief rapport-maintaining comments); interviewer shows moments of being confused or lost in terms of where s/he is in the interview; interviewer may appear upset or frustrated or is forced 'to set limits' for the child.

4	Child “zones out” during interview (trance-like): child looks very flat and then 'snaps back' into attention; loses concentration not attributable to hyperactive behavior or silly behavior that interrupts interview; child seems confused, absorbed elsewhere.
5	Child makes contradictory statements that are impossible to reconcile; either unaware of the contradiction in what s/he said, suggesting lack of self-monitoring, or has no interest in clarifying them, e.g. child states that she is with mother all the time but also that she is away and they only meet some weekends.
6	Child acts grossly immature (e.g., silly to camera, making faces, acting goofy): making faces to the camera without regard to what kind of faces are being made; 'goofy' behavior is defined as hyperaroused, silly, uncontained affect, over-exuberance.
7	Child presents psychologically confused statements that cannot be true about internal states of others: attribution for another's behavior is not possible, wildly distorted or extremely unlikely based on the circumstances or how individuals generally respond and think, or the knowledge available to the child; attribution might involve magical thinking, e.g. child mysteriously "knows" or "understands" somebody's state of mind with no contact.
8	Child displays overly concrete thinking: may repeatedly miss the point of a question about thoughts or feelings, be too literal in his/her interpretation of what the interviewer said or what the interviewer is getting at; 'theory of mind failure', for example "anybody close to you" is assumed to mean physically close.
9	Child shows inconsistent engagement with interviewer: there are dramatic variations in the child's relation to the interviewer, so behavior toward interview(er) is not predictable, e.g. child swings between extremely friendly, intrusive behaviour and remote, bored attitude.
10	Child is distracted by external factors (e.g., crisp packets), non-contextual behavior: child crumples food bags, plays with pens and other objects around him/her; to be scored highly the behavior must be pervasive and disruptive to the interview.
11	Child provides incongruent examples: examples of adjectives (whether or not in response to the adjective question) are entirely inconsistent with the intended characteristic being described, either because they contradict the characteristic being described or do not relate in any even indirect way to the characteristic being described, e.g. the relationship with Mom is loving because she lets me sit on her lap and smoke her cigarettes. This does not include weak, unconvincing or idealizing examples.
12	Child conveys incoherent stories, narratives that do not make sense: it is extremely hard to follow what the child is saying; even 'filling in the gaps' leaves gross incongruities and oddities and inconsistencies; or there is a rambling quality to the story which never gets anywhere.
13	Child becomes overwhelmed by sadness, fear, or other emotional discomfort related to previous upsetting events, even though affect may be appropriate it is extreme and not containable for the child, e.g. child cries a great deal when describing separation from or death of attachment figure which are not recent events.
14	Child seems not to adopt and/or maintain the interviewer-interviewee context or norms of interviewer-interviewee roles; child may break out of interview mode to ask questions off task, e.g. personal or unrelated to the interview.
15	Child seeks physical contact with interviewer, moves toward interviewer: in the course of the interview the child makes physical contact with the interviewer or interviewer's objects (pens, handbag, etc); or the child moves closely to the interviewer so as to be invading

	his/her personal space.
16	Child tries to set agenda, willfully controlling pace or content of interview; treats the adult interviewer as if the child were the expert and the interviewer were the student.
17	Child is hyperaroused/agitated: general affect and engagement in the interview is 'hyper', agitated; child may keep moving about, fiddling with objects.
18	Child displays scorn/contempt for interviewer (acts as if interviewer is stupid): child answers in a way that s/he expected the interviewer to know already, or acts as if the interview question is silly or stupid or irrelevant.
19	Child is unable to elaborate on questions that tap mental states; is "at sea" re: mental states (self and other): loses track of interview and doesn't get the point of the interviewer's questions about the "why" questions concerning mental states; child may seem lost, out of his depth.
20	Child's emotional states are not well modulated; there is turning "on and off" of affect or swinging to relative extremes: child shows both extreme bubbly/hyper/manic behavior as well as flat affect; the changes in affect are not gradual but as if by a switch (and can therefore come across as fake and ingenuine).
21	Child engages in an open and convincing discussion of a range of feelings: the interview covers a range of feelings and the child is able to relate to all part of the interview; good and bad events and feelings are mentioned and the child is open to reporting events of a range of affects, not just neutral or positive or negative.
22	Examples of supporting adjectives and of care giving are recalled quickly, without protracted search or prevarication.
23	Child's conversational style is fluid and "goes somewhere": conversation is back and forth, reciprocal, mutual, and there is an exchange of information.
24	Child seems reflective and thoughtful: child takes the task seriously and tries hard to think of why behaviours and feelings occur; child is eager to help the interviewer understand his/her point of view.
25	Child appears engaged and interested in his/her memories of relationship episodes: child takes time to think back to events that happened.
26	Child verbalizes deep affection for parents: child expresses very positive feelings about parents and shows unequivocal love for them.
27	Child shows immediate pleasure when asked to think about parents: immediate and clear smile on face when asked to think of examples to describe relationships with mother and father.
28	Clear evidence of going to parent for emotional help/guidance/support, a specific example is given in which child was upset and sought comfort from parent.
29	Child's affect is appropriate to what is being described: regardless of what the content is (i.e. good or bad), the child's affect is neither too flat nor over-exuberant.
30	Child understands what is being asked for: child readily appreciates what the interview is about and understands the interviewer's focus on the emotional relationship and feelings and thoughts associated with it; there is a 'shared attention' in the interview; child is collaborative with interviewer; fills in gaps to provide explanation but does not overdo this.
31	Child readily comes up with examples: the child is able to tap into a rich store of memories from which to choose vivid examples, examples concerning emotionally salient experiences, they appear meaningful - neither bland nor trivial.
32	Child seems interested in the task in their non-verbal behaviour, e.g. makes and keeps eye contact, orientates body towards interviewer, gestures are related to narrative.

33	Parents are described in believably mixed terms, some good, some bad aspects.
34	Child is able to take another's perspective: child readily refers to how others think and feel in the course of the interview; this understanding helps the child to describe and explain events in a coherent way.
35	Child values accuracy: honesty in reporting relationship experiences: child works very hard to think of what it was that actually happened in the past; the child is keen to get the interviewer to be able to 'see' what happened and get a sense of what it was like; child does not make short cuts in describing and does not seem to skip over details.
36	For each question, child pursues "story line" with confidence and determination (narrative is shaped by overall affective theme which makes the narrative interesting and engaging to the listener).
37	Child can describe negative emotional experiences with relative clarity (sufficient detail but also succinct); even very difficult interactions or patterns can be discussed with interest and in a convincing way.
38	Child appreciates that s/he needs the help of others and makes reference to this (in matter of fact manner); does not just present competencies or inadequacies.
39	Child provides convincing examples of parents soothing child: concrete and believable examples of the parent addressing/soothing/satisfying/comforting the child when the child was in distress or was otherwise upset.
40	Child has explanations for self and others' behaviour (running commentary): child goes through the interview with constant reference to reasons for others' behavior and own behavior; no additional prompts are needed by the interviewer to get the child to report why things happened or why individuals felt a certain way.
41	Child's body language or gestures indicate awkwardness about emotionally loaded subjects.
42	Child gives general assurances to the interviewer that his/her relationships with parents (e.g. "it's just normal").
43	The descriptions of what happens with the parents seem full of superficialities and platitudes, apparently avoiding specific descriptions of interactions (e.g. "it is always fun", "she is a great mother").
44	Child refers to parent or parent's role in a very disrespectful manner (without intense anger), e.g. "she (mother) is completely useless".
45	The child describes negative events (e.g. getting hurt) as though they are no problem, that they are unaffected by them.
46	The coder feels that the child's response seems false, unconvincing (e.g. "I really like being with my Mom" is accompanied by a sad look and no example).
47	Child offers only 1-2 adjectives to describe the relationship with at least one of the parents.
48	The examples and adjectives the child provides tend to be very 'concrete': physical descriptions ("he does lots of DIY"), or factual, (superficial) list of events (the child mentions trips with parents, with no elaboration).
49	There are gaps before most answers, during which the child seems to have trouble thinking of anything to say.
50	Child avoids eye contact with the interviewer through most of the interview.
51	Child does not show interest in or awareness of the thoughts or feelings of his parents (e.g. that they may get angry or worried).
52	Descriptions of relationships and events are empty of content or very bland (e.g. "It's OK", "Like everyone else").

53	Child seems unemotional even about subjects which would usually be enjoyable or upsetting.
54	Child seems bored or resentful about the interview (e.g. sulky), appears to want to get the interview over, or is irritated about being asked personal questions.
55	Child shows non-verbal signs of discomfiture, e.g. often plays with hair, and/or rubs eyes, while looking anxious.
56	Child does not help the interviewer by volunteering information; interviewer has to solicit all information directly and explicitly ("pulling teeth").
57	Child says he or she cannot remember events or examples.
58	Child avoids talking about attachment aspects of experience, e.g. instead of focusing on interactions with attachment figure, he/she focuses on impersonal aspects (e.g. child describes having meal with parent and only talks about the food).
59	Child appears to assume that he/she is able to deal with most things by him/herself**.**
60	Child's responses appear to be the least possible in answer to question, not elaborated.
61	The interview is unusually long (more than 40 minutes, not accounted for by interruptions and/or additional caregivers).
62	The interviewer finds it difficult to keep the interview moving and on track, because EITHER replies are vague and confused, OR the child gives extra or detailed examples of bad or wrong things happening.
63	Child expresses anger or sadness that is either out of proportion to the events being described, or is the predominant feeling expressed in the interview as a whole.
64	Child wants the interviewer to agree with his/her view of situations being described, by expressing indignation or unhappiness (e.g. enlisting sympathy and support).
65	Child's affect tends to be unvarying and negative throughout the interview – e.g. vague, angry, miserable, annoyed, and anxious.
66	The examples offered by the child in answer to one question seem to involve several negative aspects, e.g. the child is asked for an example of being separated, and brings in being ill, parent being upset with him, etc.
67	Child tends to describe most relationships in care giving terms, e.g. teachers, friends' parents, are described as looking after or failing to do so.
68	Child holds the floor and makes it hard for the interviewer to find space, EITHER child gives multiple or long examples, OR the child fills gaps with 'place-holding noises', such as "mmm… I mean... well...", in other words seems to be intending to say something but does not come up with fully-formed ideas.
69	Child addresses the topic, but gives EITHER over-detailed or multiple examples, OR wanders off from the story when anxiety-provoking situations are being discussed.
70	Examples are told in an overly dramatic way, histrionic or drawn out.
71	There is an impression that the child needs looking after, EITHER the child says that he/she is not being looked after properly, OR there is a feeling of neediness communicated by the way in which events are described (the child may seem sad or lost).
72	Child implies blame to others (notably the parents) for bad things happening, OR expects that things will always be bad.

73	The listener cannot easily understand or follow what the child is saying.
74	The interview is consistently bogged down, (e.g. the interviewer is flooded with irrelevant details, the child's answers keep wandering from the topic) and the interview ends up a little bit like treacle.
75	Child offers a few examples in answer to several questions. The child seems to have difficulty in remembering clearly and tries to go back to previously described events.
76	Child describes people or events at length but despite this, the picture remains vague.
77	Child speaks as if lost in the narrative, e.g. EITHER as though complaining to or arguing with the parent, OR as though child is so caught up in what is remembered that he/she cannot take any perspective.
78	Interviewer has to supply much of the organisation to the interaction in order for the child to stay on track (e.g. prompting for information or clarification, reminding the child of the question, or persuading him/her to move onto another subject).
79	Child has difficulties focusing on and answering the question (e.g. the child appears to have difficulty in finding words; child has difficulty in expressing an idea).
80	Child has great difficulty in thinking about experiences with the caregivers.

Appendix C: Development of CAQ Computer Program

C.1. Review of Existing Q Programs

Computer programs developed to utilize Q are the WebQSort Project (Correa, n.d.) and the FlashQ (Hackert & Braehler, 2007), whose programs were developed to adapt to the needs of each researcher. Although developed for particular measures, the Attachment Q-sorter (AQS; Storia, 2005) and the Shedler-Westen Assessment Procedure (SWAP-200; Shedler & Westen, 2009) are also worth noting. Lastly, this review also identified the existence of companies such as The Epimetrics Groups that can collect and analyze Q sort data on the behalf of the researcher, for a fee.

C.1.1. WebQSort Project

The WebQSort Project is a free web program allowing a researcher to create and run their own web based study using Q sort. Correa (n.d.) specifies that neither programming skills nor a personal server are needed. Overall the concept of having a Q-sort study available online for participants to use was interesting. The author (AT) used this program to create a sample Q-sort study for assessment purposes.

The beginning stages of creating such a study were well designed and easy to use. After creating an account, AT easily inserted, edited and deleted items and could also add questions before and after the Q-sort with varying formats, such as open ended questions or a seven point Likert scale. However, beyond this stage, instructions were not provided to explain the multiple fields and options available. Thus it was not possible to proceed beyond this point. Nevertheless, an incomplete version of the Q-sort was created and a URL link was available allowing direct access for any participant.

Further testing of this program indicated multiple weaknesses. The most important ones were that the window design and resulting Q-sort were confusing to the user. Also, while completing the Q-sort the user had to constantly click ‘Update’ each time an item was placed in the grid – a very time consuming process. Once the Q-sort was completed, the user was provided with a number code and could not view the results. Information about this was not available and it was presumed that the user had to communicate with the Correa, since the data was stored on their server. Lastly, storing the data for a study on the server of Correa raised serious issues concerning data protection and confidentiality. Considering these weaknesses this program was no longer deemed useful for the purposes of developing the CAQ program.

C.1.2. FlashQ

The FlashQ is a program that can be downloaded for free and according to Hackert and Braehler (2007) does not require any programming skills from the researcher. Assessment of this program by AT indicated the following strengths: (a) the code was written in a very neat manner making it very easy to follow and modify, (b) useful and clear instructions were provided, (c) drag and drop of items worked well, and (d) the window was well designed.

However the following weaknesses were also identified: (a) contrary to what Hackert and Braehler (2007) stipulate, basic programming skills were needed to modify the program code to the needs of a particular study. Modifying the code to adjust to the needs of the CAQ indicated that FlashQ could not cope well as it was not developed for such a large number of items (80 in this case). As a result the window could not display these items requiring constant scrolling of the 80 item list and the items in the grid appeared as small boxes that barely indicated the item number. If an item was misplaced outside the grid (and thus not included in the data) an error message did not appear. Once this program was created it could only be used on one computer and the results of this offline version could only be exported to MS outlook or printed directly. If neither of these options were available the data was lost. The format of the exported results was simply a text file, requiring manual input into a data analysis program by the researcher, a time consuming process that inevitably would introduce error. An online version was under development. Similarly to the previous program, the FlashQ was deemed inadequate for the purpose of developing CAQ software.

C.1.3. Attachment Q-sorter (AQS)

The AQS is a program developed for Apple computers and only for application of the Attachment Q-set and the Maternal Behavior Q-set (Storia, 2005; Waters, 1995). Overall this program was well designed and easy to use. The most important limitations were that it forced the user to work with a particular number of items (30 items during the 3 pile sorting and 10 items during the 9 pile sorting) and after the 3 pile sorting was completed, the items were locked into three categories. When proceeding to the 9 pile sort, it was not possible to shift an item to another category. These restrictions seemed to defeat the purpose of allowing the user freedom to shift items as often as needed to achieve a representative configuration. Although it was strictly for Apple computers and for the application of particular instruments, it provided an interesting framework for review.

C.1.4. Shedler-Westen Assessment Procedure (SWAP-II)

The SWAP-200 is an instrument for measuring personality pathology used by experienced clinicians (Shedler & Westen, 2009). The web version of the SWAP-II is still being developed, however an Excel version of it was available. This Excel file was very interesting, providing the opportunity to enter data and yield a plethora of results, however its use was strictly for the needs of the SWAP, an instrument very different from the CAQ.

C.1.5. References

Correa, C. (n.d). *WebQSort Project*. Retrieved from http://q.sortserve.com/

Hackert, C., & Braehler, G. (2007). *Flash Q (Version 1.0)*. Retrieved from http://www.hackert.biz/flashq/home/

Shedler, J., & Westen, D. (2009). *Shedler-Westen Assessment Procedure (Version 200)*. Retrieved from http://www.swapassessment.org/excel.html

Storia, S. (2005). *Attachment Q-Sorter (Version 1.1)*. Retrieved from http://homepage.mac.com/rockyshores/36n121w/AQS/dl/AQS11.dmg

C.2. CAQ Computer Program Development Stages

C.2.1. CAQ version 1.0.0

CAQ Version 1.0.0 consisted of a window with the Q sort grid and recycle bin on the right and number card, item card and item selector on the left. Within this window the user had the following abilities (see Appendix A, Image 1 and 2):

1. To view the full set of 80 items by clicking on the arrows of the item selector. While the user scrolled through the set, the number card and item card (wording) corresponding to the particular item were displayed.
2. To drag and drop items into the grid by placing the mouse pointer on the number card that indicated the number of the particular CAQ item that was displayed. Then this item was placed in the grid by dragging and dropping it in the desired grid position (or cell).
3. To delete an item (that was misplaced in the grid) by dragging and dropping the item into the recycle bin found at the lower left hand corner of the window.
4. To save the completed Q sort grid. This action was possible even if the grid was not completed. The user could reopen the file and continue filling in the Q sort grid at any time. This was possible by clicking on the File menu (from the menu bar found at the top of the window), clicking Save and typing a file name. The program automatically added the .caq extension to the file. This allowed the user to reopen the file at any time using the CAQ program.

Problems identified:

1. The program was not able to identify duplicate items, thus the user could place any particular item into the grid more than one time (there was actually no limit) without the program identifying this as an error and prohibiting this action.
2. The recycle bin was not a satisfactory solution for deleting items from the grid and an alternative option needed to be found and applied to the program.

C.2.2. CAQ version 1.0.1

In CAQ Version 1.0.1 the following changes were made to address the problems identified above:

1. The recycle bin was removed to simplify the program, making it more efficient and user friendly. Via testing we realized that if a user wanted to delete multiple items this would be very time consuming because each item would need to be dragged and dropped into the recycle bin, individually. This would be time consuming to complete. Thus the recycle bin was replace with a drop down menu that would appear by right clicking on the grid cell of the item that the user wanted to delete. The drop down menu had 2 options to clear the particular cell or the entire grid (see Appendix A, Image 3).
2. Error handling code was added and the program warned the user if he/she attempted to add an item that already existed in the grid. The item was highlighted in red when the user attempted to drag and drop the item into the grid and the program prohibited the user from completing this action.

Problems identified:

1. The program would unexpectedly crash and all date would be lost. The cause of this problem would need to identified and resolved.
2. The program needed to be developed further to provide results (scores and final attachment classification) for the user.

C.2.3. CAQ version 1.0.2

CAQ version 1.0.2 was an experimental version to explore the best way to transfer data calculations from the existing excel file to the program. Extensive trial and error methods were used at this stage. In the end the basic coding and framework was in place, however the program only displayed the scores for each attachment classification in a display box below the item card. Other changes that were made to this version are:

1. Drag and drop features were improved and corrected because an error in the code was causing the problem to crash and lose data.

2. Error handling of the program was further improved. If an item already existing in the grid, it was highlighted in red as the user scrolled through the items to save time for the user. Time saving would occur because the users would become aware that the particular item being viewed was already placed in the grid before they attempted to drag and drop it.

   Problems identified:

   The results features of the program needed to be further developed to achieve the following:

   a. To know what to do when two attachment classifications yielded the same score

   b. to display the final attachment classification to the user

   c. to allow the user to save results

   d. to prevent the user from "tweaking" the results

C.2.4. CAQ version 1.0.3

In CAQ Version 1.0.3 the following changes were made to address the problems identified above and for improvement of the program:

1. Below the item card, a new display feature was added and it consisted of three separate tabs (see Appendix A, Image 4). The name and function of each was (1) the *Information* tab to display general information regarding the program (this was left blank in this version), (2) *Results* tab to display the scores and attachment classification and (3) *Child Details* tab to display the ID number of each child typed in by the user.

2. Improvement of the Results feature included the following stages:

   a. The program identified the attachment classification with the highest score and assigned this as the main attachment classification for the particular Q sorting. This system worked well for dismissing, preoccupied and secure children, however it was not adequate for a disorganized child because a sub-classification was needed. Furthermore if two attachment classifications yielded the same result the program did not know what to do.

   b. The program was further developed to require a sub-classification when the main classification was disorganized. However, further problems were encountered. If disorganized attachment yielded the highest score then "Disorganized" was assigned as the main classification and the classification with the second highest score was assigned as the sub-classification. The problem arose when "Disorganized" and another classification yielded a tied highest score or if another attachment classification yielded the highest score with "Disorganized" being the second highest score. After discussing this with MT and PF, the program was given instructions to assign "Disorganized" as the main classification in both of the scenarios explained above and the other classification was assigned as the sub-classification.

   c. If the program yielded tied scores for two attachment classification and one of them was NOT disorganized, then the user would have the ability to choose the attachment classification that they deem is most appropriate from a drop down menu.

   d. At this stage it was considered where it would be useful for the user to be able to view the score while completing the Q sort grid. After discussing this with PF and MT, it was decided not to include this feature to avoid the user from assigning a particular attachment classification decided a priori and tweaking the date. Therefore it was decided that the *Results* tab would appear blank until the grid was complete, then the "Get Results" button unlocks, and once this is clicked the "Save Results" button unlocks.

3. The *Results* tab consisted of additional functions than the one mentioned above and was a very important feature of the program. The functions of this tab are the following:

    a. The "Save results" button and "Get results" button. When the user clicks "Save Results" the grid locks and changes are no longer possible, this was put in place to prevent the user from returning to the grid and changing the Q sorting to achieve a desired classification. Also since the data cannot be tampered this prevents error in data exchange and analysis from differing sets of data with the same ID.

4. A splash screen displaying the name and author of the program were added.

5. An "About" page was added to the menu bar of the program.

    Problems identified:

    1. For data sharing purposes the program must export the data into template excel file.

    2. Questioned usefulness of information tab since the about page was created.

    3. Testing indicated if the user wanted to change the position of an item in the grid or swap the position of two existing items, he/she had to go through a time consuming process of deleting each item, finding it again using the item selector to finally drag and drop the item(s) into the new position(s).

C.2.5. CAQ version 1.0.4

In CAQ Version 1.0.4 the following changes were made to address the problems identified above and for improvement of the program:

1. "Export to Excel file" option was added to the *Results* tab. This feature was available at any time, even after the file is saved and closed or already exported.

2. The "Export to Excel" button became active only when the "Save Results" button was clicked. This was intended to function as a safety so prohibit tweaking of the results.

3. The "Overwrite and replace" option by drag and drop was added. This allowed the user to move an item from an existing cell to another blank cell or to switch positions of two items already in the grid.

4. The *Information* tab was altered to serve as a useful function for the user while completing the Q sort grid. As explained previously this tab was initially created to provide information about the program, but this was deemed redundant. AT and HE decided to alter its function to provide a list of remaining items that needed to be placed in the grid, helping the user to keep track of their progress and save time. As each item was placed in the grid, it was deleted from the list.

    Problems identified:
    The "Export to Excel" button did not function as planned, it became active before the results were calculated.

C.2.6. CAQ version 1.0.5

In CAQ Version 1.0.5 the following changes were made to address the problem identified above and for improvement of the program:

1. The "Export to Excel" button only became active when the results were saved.

2. Another time saving feature was added to the program. The user can now select from the *Information* tab a particular item to place in the grid (see Appendix A, Image 5).

Problems identified:

If the user attempted to drag and drop an item from the *Information* tab to any location on the window, the program would crash and all data would be lost.

C.2.7. CAQ version 1.0.6

In CAQ Version 1.0.6 the following changes were made to address the problem identified above and for improvement of the program:

1. The *Information* tab now worked properly, the user could drag and drop an item into the grid from this tab without the program crashing.

2. The order of the tabs was changed. *Child details* tab was set as the default tab, appearing each time a new window was opened. This would allow the user to fill in this information before sorting the items. Also, date, age and notes fields were added to this tab. Once an item is dragged and dropped into the grid, the display automatically switches to the *Information* tab.

3. Child ID and Date became mandatory fields. A user could not save the results, if these fields were incomplete (an error message would appear notifying the user). This was deemed necessary for data management and exchange.

4. Multiple messages boxes were added to the program that would appear to warn the user about saving date before exiting, confirming data was saved, etcetera.

5. A user manual was created for the CAQ (for a complete copy see Appendix B).

Problems identified:

1. The process for going back and inputting Child ID and Date after the error message appeared was not working properly. The error message would appear as planned when the user clicked on "Save Results," but the program would not function as expected afterwards. For example, when returning to the *Results* tab, it would ask the user to select main attachment classification, when previously the results indicated that the classification was secure.

2. In the *Child Details* tab, if an invalid date was entered, such as 9/99/2010, the program did not recognize this as invalid. To address this problem, AT and HE considered making the date an automatic feature (no typing would be permitted in this field) that would be inputted when the user clicked on a button labeled "Today."

3. When exporting the results for a disorganized Q sort the main classification in the Excel file appeared as Option 1. The same occurred when the file was saved, closed and reopened.

4. When the grid was complete and the *Results* tab was activated, sometimes the table with scores would appear blank and sometimes cell contained a zero for each classification score.

5. If the user did not enter age (not a mandatory field), sometimes this field appeared as zero and other times it was blank.

C.2.8. CAQ version 1.0.7

In CAQ Version 1.0.7 the following changes were made to address the problems identified above and for improvement of the program:

1. Child Details tab

    a. Problem 1 identified above was rectified and the program continued to work as expected once ID and Date were filled in.

b. Several modifications were made to the Date field. These were:

   i. The date format varied according to the regional settings of the computer that was being used. For example a European computer would display the date as dd/mm/yyyy, whereas an American computer would display the date as mm/dd/yyyy. With data exchange this would be problematic, so to prevent this, the format of the date in the exported Excel file was changed to the following format: dd Month yyyy (e.g. 10 March 2010).

   ii. Adding a calendar was considered, that would appear with the click of a button and the user would select the date. However, this proved to be cumbersome and time consuming without adding a feature that would be useful to the user. Thus a button was added labeled "Today" which automatically filled in the date.

c. The Age field was also modified to rectify the problem identified in version 1.0.6. This went through several stages of development and the final version consisted of a drop down menu which ranges from 1 to 20 years. Also the N/A option was added to the drop down menu in the event that this information was not available. N/A has been set as the default.

d. A Notes field was added to this tab. This option was added to allow the user to enter any additional information that he/she believed necessary for their own use and for data exchange. All information added in this field would appear in the exported file. This field does not lock and it is possible to add additional information after saving, however the file must be exported again.

2. All of the other problems identified in version 1.0.6 were also rectified via code modifications.

3. Backward compatibility was added to the program to allow any saved file to open on any version of the CAQ (old and new). The program warns the user of compatibility issues of old saved files and will rebuild the saved file to make it compatible with previous and present versions.

Figure 1. Screenshot of CAQ version 1.0.0.

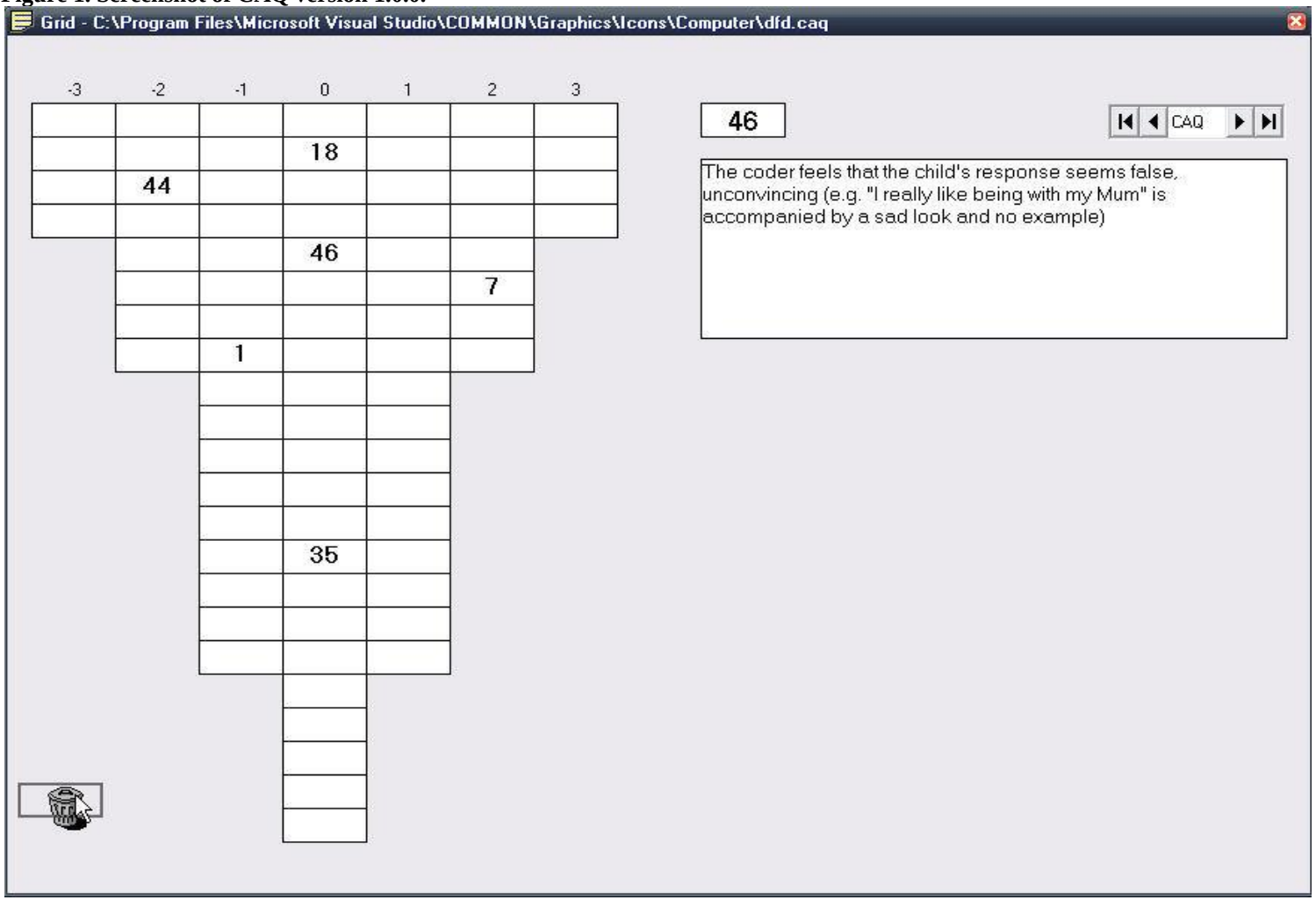


Figure 2. Screenshot of CAQ version 1.0.0 with objects explained.

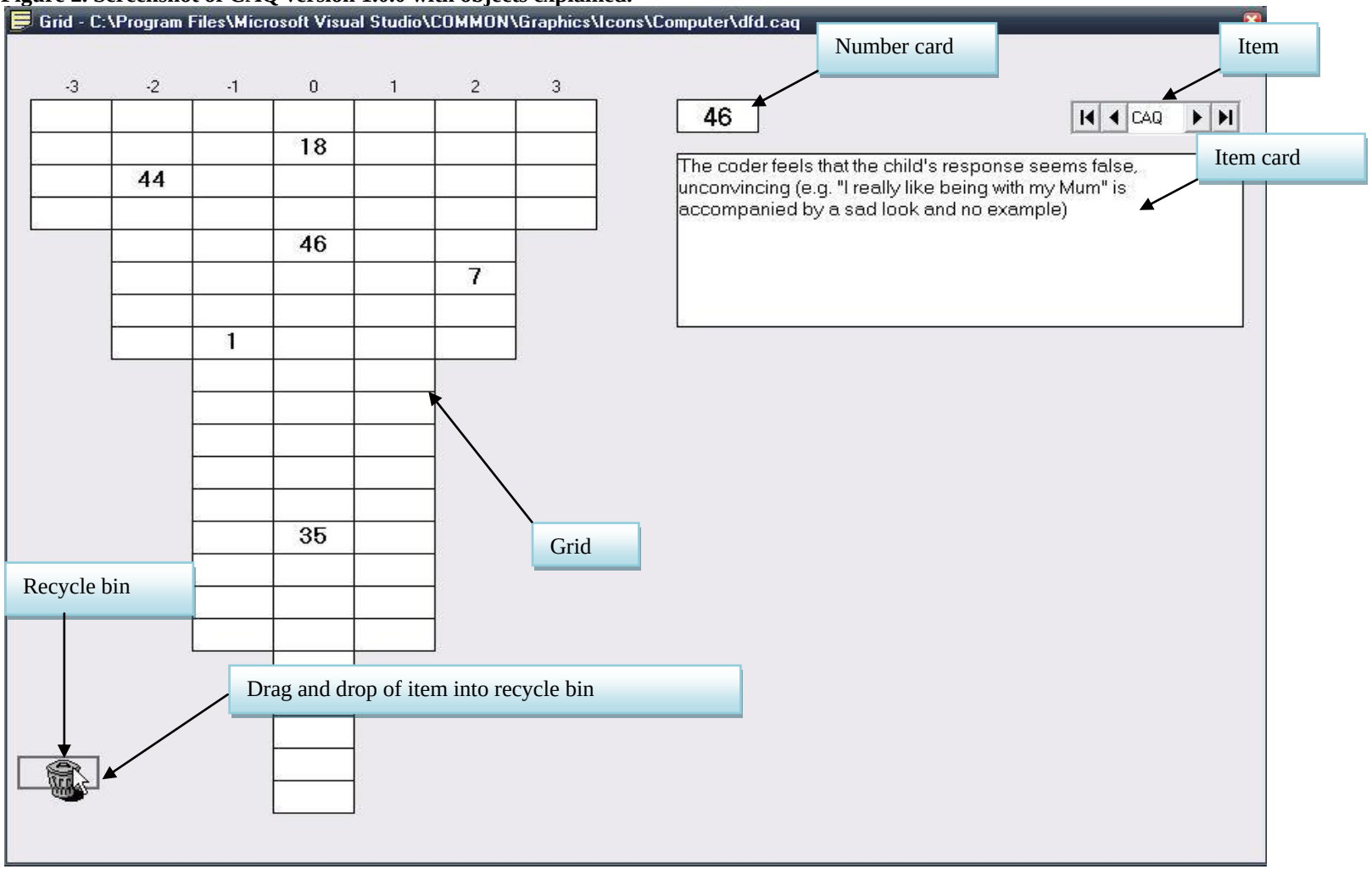


Figure 3. Screenshot of CAQ 1.0.1 displaying drop down menu to clear grid cell or entire grid.

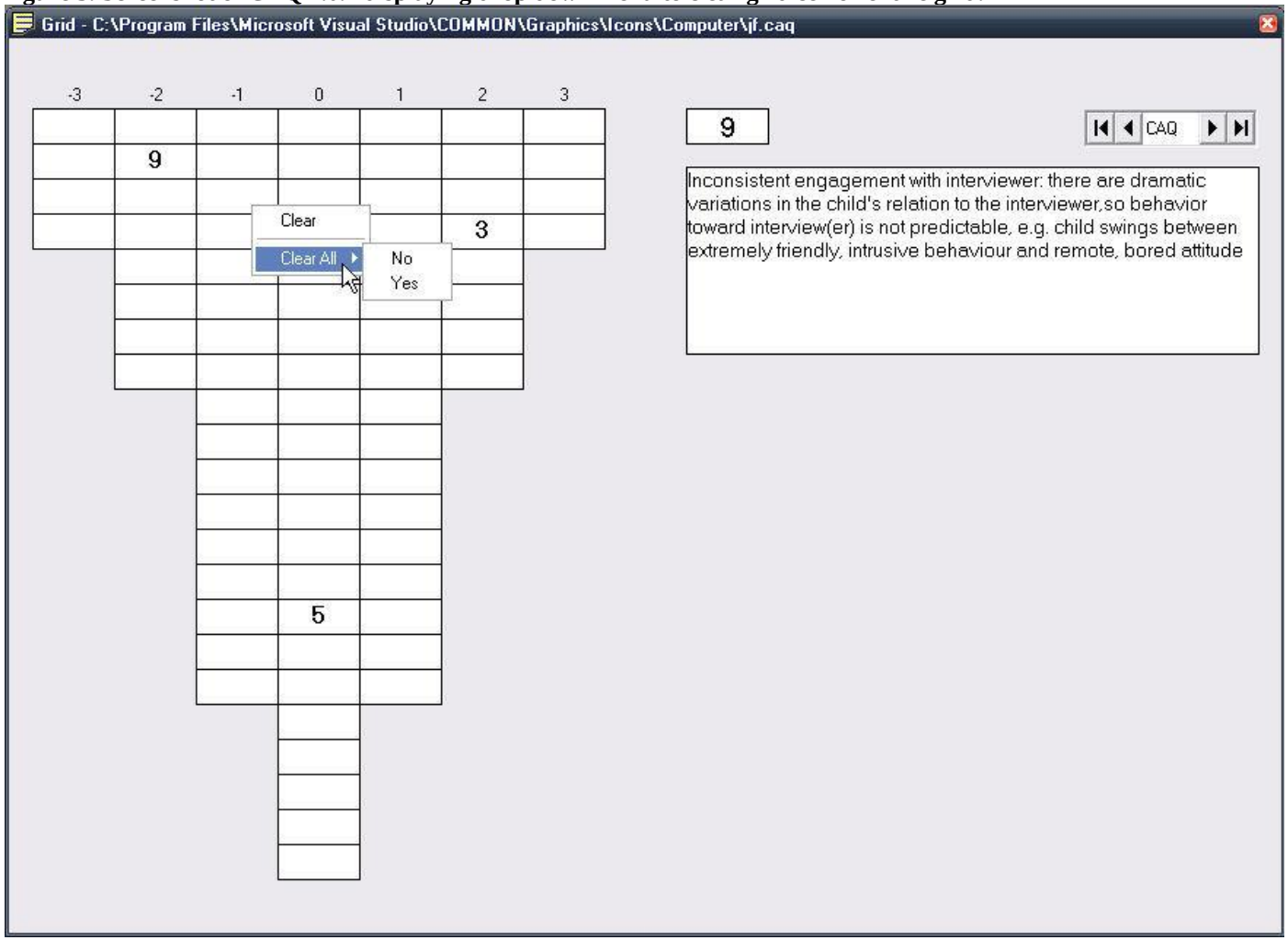


Figure 4.Screenshot of CAQ 1.0.3 displaying drop down menu to select main classification with tied scores.

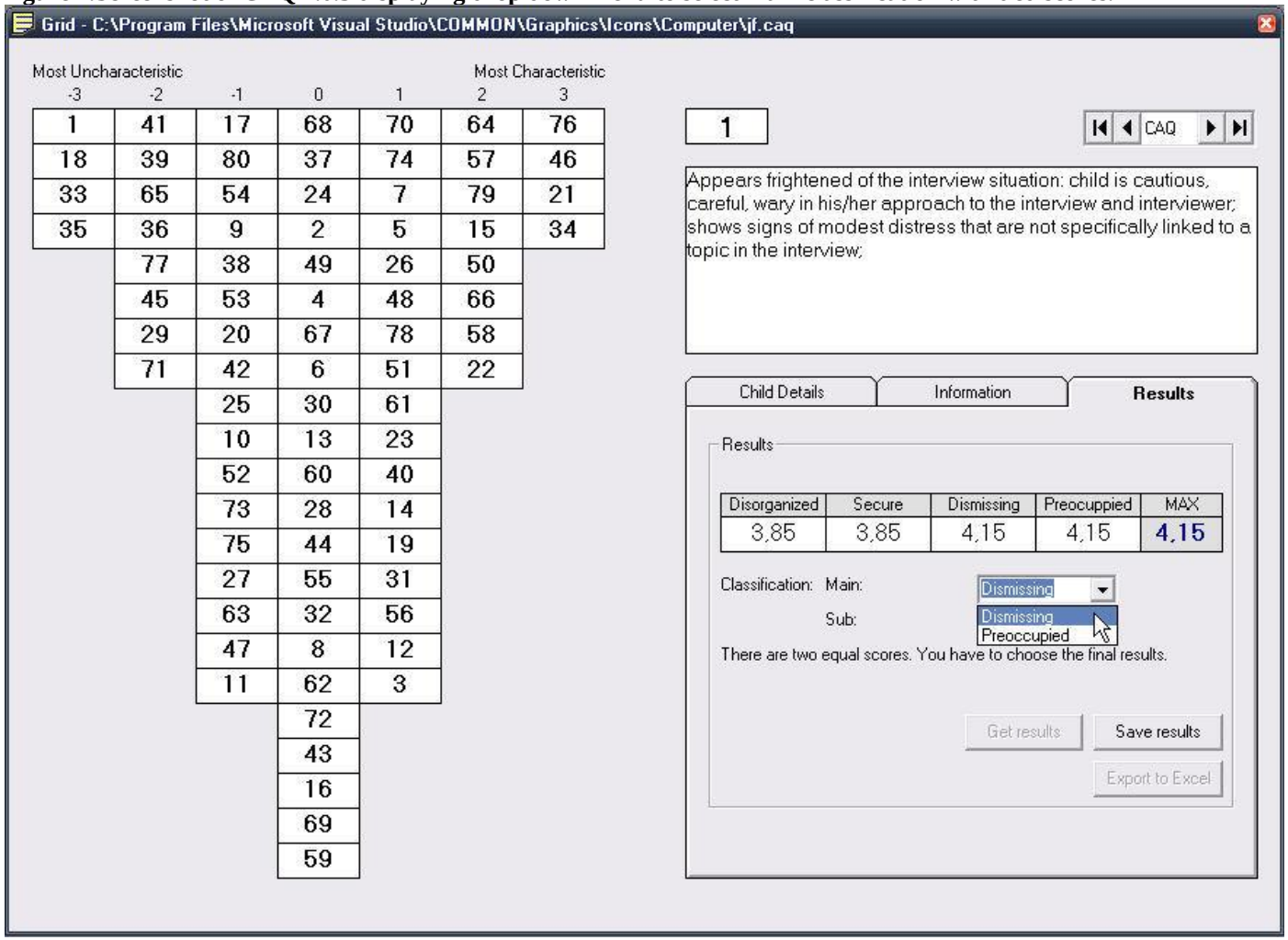
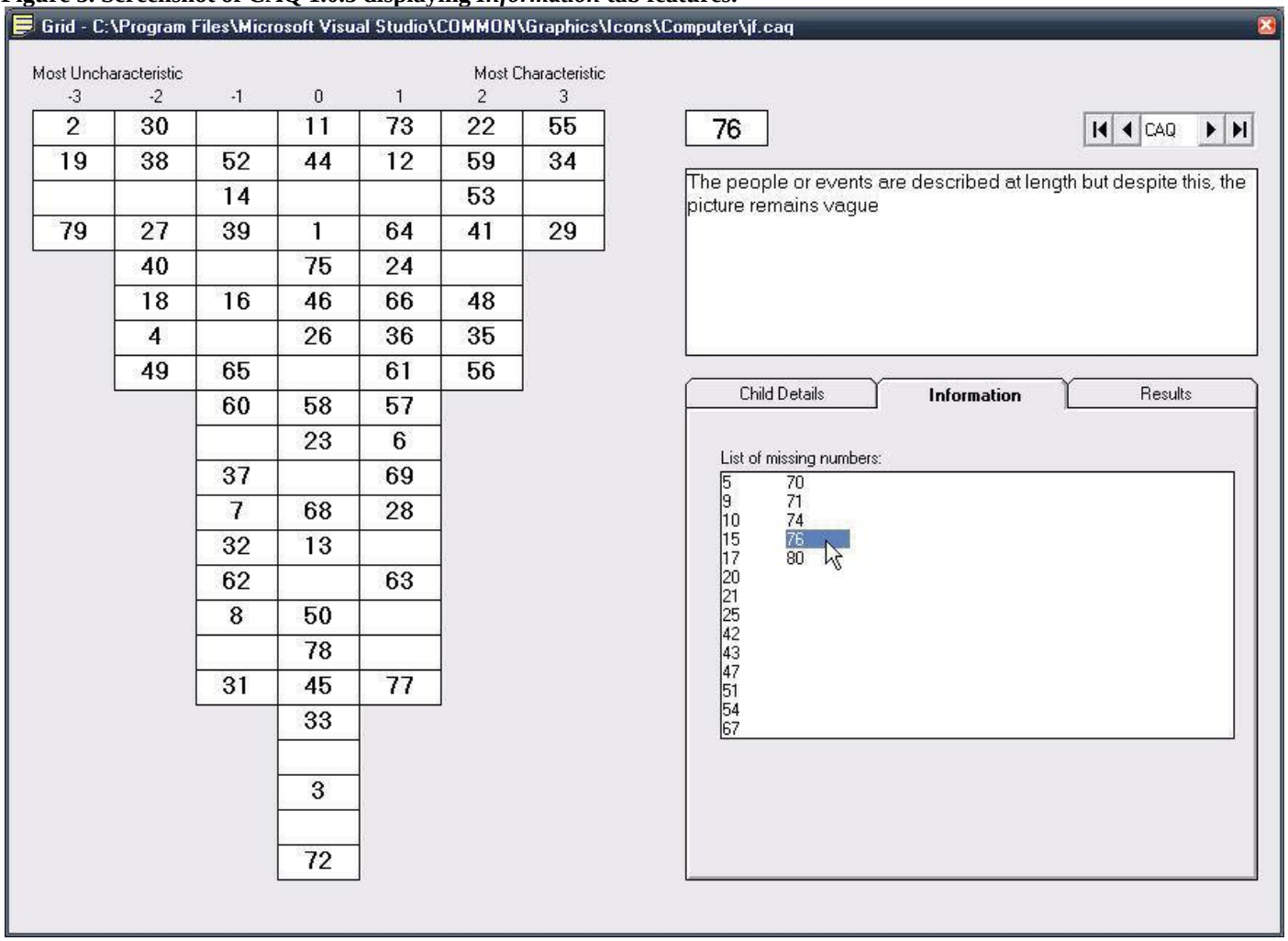


Figure 5. Screenshot of CAQ 1.0.5 displaying *Information* tab features.



Appendix D: Measures

D.1. CAI Protocol – Version IV

THE CHILD ATTACHMENT INTERVIEW (CAI) PROTOCOL

Devised By

Mary Target, Peter Fonagy, Yael Shmueli-Goetz, Adrian Datta, and Tiffany Schneider.

The Sub Department of Clinical Health Psychology,
University College London, Gower Street,
London WC1E 6BT.

Child Attachment Interview Protocol

(8 to 12 year olds) (Revised Edition IV, 07/02/99)

The CAI aims to access children's mental representations of attachment figures and significant others (if appropriate). One way of potentially accessing these representations is asking children about their experiences with, and perceptions of, their parents.

The CAI is not predominantly designed to elicit biographical or episodic information, rather it attempts to capture the affective nature of the relationship described.

Central to the CAI is the degree to which the child conceives their parents as emotionally available, responsive and thereby able to use them as a secure base. More specifically, the CAI seeks to tap into memories the child may hold concerning times of crises (e.g., personal injury, bullying), separations from parents (planned and unplanned), in addition to positive aspects of their relationships with their parents (cuddling, talking, spending time together).

The interviewer should consistently hold in mind the importance of assessing the child's view of the Relationship Episodes (REs). Therefore, prompts should reflect this emphasis.

Some children are able to recount coherently and sequentially the events within which the REs are contained. However, others may require additional help in the form of scaffolding from the interviewer in order for them to tell the story in a way that can easily be understood and subsequently coded. The questions ask the child about his or her relationship with attachment figures and about specific situations in that relationship, such as when Mum gets upset or when Mum and Dad argue.

During the interview it is extremely important to get specific examples from the child in response to each and every question. This is VERY important on questions 2 which asks the child for three words to describe themselves and questions 3 and 5 which ask what it's like to be with Mum and Dad respectively. You MUST ask the child for an example for each of the words they give, as the coding system for this interview relies on the child giving specific examples to illustrate each of the words he/she uses. For instance, in question 3 the child might say that it feels safe, happy and relaxing to be with Mum, so you must ask the child for an example of when it felt safe, an example of when it felt happy and an example of when if felt relaxing to be with Mum. If the child finds this difficult, then you can ask him or her to "describe a time when it felt …" , or "tell me about the last time it felt….." to be with Mum. Always follow up brief answers to questions by asking for examples. The coherence of the interview can only be assessed if the child provides examples for his answers – if the child says that when Mum gets upset, she shouts and he gets sent to his room where he plays computer games, then ask for a specific example of when Mum became upset. Remember, if all the interview produces are answers like "it feels happy to be with Mum because she is nice and does things for me" this is useless.

Some questions have alternative phrasings if the child doesn't understand what you mean. It is not necessary to strictly adhere to the format of the questions, and you can re-phrase the question if you need to, in order for the child to understand. Use some of the suggestions in the text (e.g. question 10) if the child fails to respond or says "no". For example, if the child says no-one they cared about has died, just check by asking about grandparents, uncles, aunts etc. Children who have said "no" quickly realize that their grandfather did actually die last year when asked specifically about grandparents! Be careful about putting words into the children's mouths though. The interview is sometimes a little stressful for the children; you should ask for specific examples and use the prompts if the child says "no" or doesn't reply, but be aware that if a particular question is difficult for a child, go gently and move on to another question if necessary.

IMPORTANT GENERAL PROMPTS

Prompts are not principally given to find out more episodic information. Instead they are offered to provide clarity concerning the nature and quality of the child's attachment representations. In other words, there is an emphasis within the CAI on **quality not quantity**.

- If the child responds with concrete, physical attributes or purely factual information (see for example question 2) then attempt to explore the affective nature of the description relayed. If the child does not respond with a RE, do not persist, simply move on.

If potential REs are identified anywhere throughout the interview then:

1) Initially ask the child to tell the story from the beginning.
2) If the child has problems with sequencing their narrative orientate them by asking for specific details surrounding the events (e.g., Who was there? What happened? What was there? What did you do?)
3) Ask how the child and other (if relevant) felt in the situation.

Presenting the interview

Present the interview by saying:

"This is an interview about you and your family. I am going to ask you some questions about yourself first and then I will ask questions about your relationship with your parents. For each question I will ask you to give me some examples. This interview is not a test and there are no right or wrong answers. I would just like you to tell me how you really think and feel about what you and your family are like. The interview will last about half an hour (30 minutes)".

1) Can you tell me about the people in your family. (May need to qualify by saying "That is the people living together in your house" if child starts describing extended family members).
This is a warm-up question and its aim is not to try and obtain biographical information but rather to engage the child in the interview and reduce any unnecessary anxiety.

2) Tell me three words that describe yourself , that is not what you look like, but what sort of person you are (It may be useful to say "that is your personality or character". Some children may find it helpful to imagine writing a letter to a pen pal). 1…….. 2…… 3…….

Ask for specific examples to support each adjective, i.e., "Can you give me an example of when you felt" 1……. 2……. 3……..

Prompts: After each example, prompt the child as appropriate focusing on any specific relationship episodes (See introduction).

3) Can you tell me three words to describe your relationship with you mum? (can add "that is, what it's like to be with your Mum?").
1……. 2…….. 3……

Ask for specific examples to support each adjective, i.e., "Tell me about a time when you felt 1….. 2..... 3..... with her"

Prompts: Immediately after each example prompt the child for more detailed description of the relationship episode as necessary (See introduction).

4) What happens when Mum gets cross with you?

Prompt: If you've done something wrong or done something to upset her, what does she usually say or do?

Ask for a specific example, can say "Tell me the last time mum got upset with you".

I. How did you feel when that happens?
II. How did you think your mum feels when that happens?
III. Why do you think she does _____ (whatever the child says mother does, e.g., shouts at you)?

IV. If child does NOT take this to mean getting angry:- Further prompt: What happens when your Mum tells you off/is angry with you?
V. Do you know why she tells you off or what you have done wrong?
VI. Do you think it's fair?

5) Can you tell me three words to describe your relationship with your Dad? (can add "that is, what it's like to be with your Dad?").

1……. 2……. 3……

Ask for specific examples to support each adjective, i.e., "Tell me about a time when you felt 1….. 2..... 3..... with him"

Prompts: Immediately after each example prompt the child for more detailed description of the relationship episode as necessary (See introduction).

6) What happens when Dad gets cross with you?

Prompt: If you've done something wrong or done something to upset him, what does he usually say or do?

Ask for a specific example, can say "Tell me the last time mum got upset with you".

I. How did you feel when that happens?
II. How do you think your dad feels when that happens?
III. Why do you think he does _____ (whatever the child said father does e.g., shouts at you)?
IV. If child does NOT take this to mean getting angry:- Further prompt: What happens when your dad tells you off/is angry with you?
V. Do you know why he tells you off or what you have done wrong?
VI. Do you think it's fair?

7) Can you tell me about a time when you were upset and wanted help

Prompt: You were trying to tell someone something and no one understood what you meant? Or, there was something you wanted someone to do and no one understood you?

If the child says that this hasn't happened, offer suggestions:
e.g.; how would you feel if; your teacher told you off in front of the whole class, or you asked your friend to play after school and they said no because they didn't like you anymore, or you were bullied at school.

Prompt for a specific example when child felt upset or misunderstood.

8) Do you ever feel that your parents don't really love you?

I. **Prompt:** Can you tell me when you felt like that?
II. Do you often feel like that?

9) What happens when you're ill?

Prompt for a specific example i.e., "Can you tell me what happened?".
What did you do? Does anyone stay at home with you?

10) What happens when you hurt yourself?

Prompt for a specific example, i.e., "Can you tell me about a time when…?". What did you do? Who was there?

10) Has anyone close to you ever died? Has an animal ever died?

I. What happened? Was the death sudden? Did you go to the funeral?
II. How did you feel about it?
III. How do you think it made other people feel? (e.g. Mum, Dad, sibling?)

12) Is there anyone that you cared about who isn't around anymore? (This should be asked as an extension of question 11 only if this issue has not been covered previously).

I. How did it feel when they went away? Did things change much?
II. Do you keep in touch? If yes, how, if no why do you think that is?

If child says no: Tell me about a time when things changed. (e.g. moved house, went to new school, parents separating, friend left).

I. How did you feel?
II. Do you keep in touch? If yes, how, if no why do you think that is?

13) Have you ever been away from your parents for longer than a day? (Very important question concerning separation from parents, try therefore to get as much information as possible).

Prompts: Prompt to get a clear idea of the incident the child is describing (i.e., When, Who they were with, Where to, How long for, What they did)

I. What was it like to be away from you parent/s?
II. What do you think it was like for your mum and dad?
III. What was it like seeing mum and dad again?

14) Do your parents sometimes argue?
Prompt for a specific example, can say "Can you tell me about the last time your parents were arguing"

I. How do you feel? Why do you feel like that?
II. Why do you think they do that?
III. How do you think they feel?
IV. Do they know how you feel?

15) I. In what ways would you like to be like you mum?
II. In what ways would you not like to be like you mum?
III. In what ways would you like to be like your dad?
IV. In what ways would you not like to be like your dad?

16) Ending Question: If you could make three wishes when you are older what would they be? (finish up question, should be asked in playful manner and affirm the child's answers, e.g., "ah, that sounds really good".

D.2. Wechsler Intelligence Scale Children – Third Edition (WISC-III UK) Subtests

5. Picture Arrangement

Discontinue after 3 consecutive failures.
Items 1 and 2 are considered failed only if both trials are failed.
For ages 9-16, normal sequence of proceeding items after failure on Item 3.

Note: Set out cards in sequence of dot patterns (right-hand corner of card) and record the child's card response order according to card number (left-hand corner).

Item	Time Limit	Completion Time	Response Order	Score (Circle Appropriate score)						Score
Sample: Drinks Machine										
1. Slide Trial 1	45"			0		2				
1. Slide Trial 2	45"			0	1					
2. Picnic Trial 1	45"			0		2				
2. Picnic Trail 2	45"			0	1					
3. River crossing	45"			0		45-16 2	15-11 3	10-6 4	5-1 5	
4. Snack time	45"			0		45-21 2	20-16 3	15-11 4	10-1 5	
5. Missing the boat	45"			0		45-21 2	20-16 3	15-11 4	10-1 5	
6. Hold-up	45"			0		45-21 2	20-16 3	15-11 4	10-1 5	
7. Gone fishing	45"			0		45-21 2	20-16 3	15-11 4	10-1 5	
8. House fire	45"			0		45-21 2	20-16 3	15-11 4	10-1 5	
9. Seeing stars	45"			0		45-21 2	20-16 3	15-11 4	10-1 5	

10. Ducks crossing	45”			0		45-21 2	20-16 3	15-11 4	10-1 5	
11. Rain shower	45”			0		45-21	25-16 3	15-11 4	10-1 5	
12. *Walking the dog	60”			0		60-26 2	25-16 3	15-11 4	10-1 5	
13. Ploughman’s lunch	60”			0		60-26 2	25-16 3	15-11 4	10-1 5	
14. ◆Snow Scene	60”			0	654321 1	60-26 2	25-16 3	15-11 4	10-1 5	
							Total sub-test score (maximum =64)			

* **456123** is an equally acceptable response.

◆ The response **654321** scores 1 point

4. Similarities

Discontinue after 4 consecutive failures

Item	Response	
Sample: Red-Blue	Sc	
1. *Piano-Guitar		
2. *Candle-Lamp		
3. Shirt-Shoe		
4. Wheel-Ball		
5. Milk-Water		
6. ◆Apple-Banana	Score 0	
7. Cat-Mouse		
8. Elbow-Knee		
9. Anger-Joy		
10. Telephone-Radio		
11. Painting-Statue		
12. Family-Tribe		
13. Ice-Steam		
14. Temperature-Length		

15. Mountain-Lake		
16. Rubber-Paper		
17. First-Last		
18. ■ Numbers 9 and 25		
19. Salt-Water		
	Total subtest score (maximum =33)	

* If the child says that they are not alike, fails to respond, or gives an incorrect response, give an example of a 1 point response.

◆ If the child gives a 1-point response, give an example of a 2-point response.

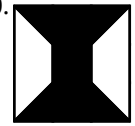
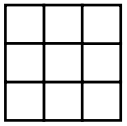
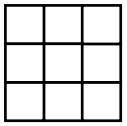
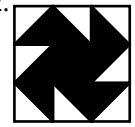
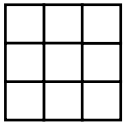
■ If the child gives a 1-point response, ask "*How else are the numbers 9 and 25 alike?"*

7. Block Design

Discontinue after 2 consecutive failures.
For ages 8-16, normal sequence of preceding items after failure on either trial of Design 3.

Child

Correct Design	Time limit	Incorrect Design		Comp-letion time	Correct design		Score (Circle the appropriate score for each design)							Score
1. 	30”	Trail 1 	Trial 2 		Y	N	0	Trail 1 2	Trial 2 1					
2. 	45”	Trail 1	Trial 2		Y	N	0	Trail 1 2	Trial 2 1					
3. 	45”	Trail 1	Trial 2		Y	N	0	Trail 1 2	Trial 2 1					
4. 	45”				Y	N	0			45-16 4	15-11 5	10-6 6	5-1 7	
5. 	45”				Y	N	0			45-21 4	20-16 5	15-11 6	10-1 7	
6. 	75”				Y	N	0			75-21 4	20-16 5	15-11 6	10-1 7	
7. 	75”				Y	N	0			75-21 4	20-16 5	15-11 6	10-1 7	

8. 	75”			Y	N	0			75-21 4	20-16 5	15-11 6	10-1 7	
9. 	75”			Y	N	0			75-26 4	25-16 5	15-11 6	10-1 7	
10. 	120”			Y	N	0			120-41 4	40-31 5	30-25 6	25-1 7	
11. 	120”			Y	N	0			120-56 4	55-36 5	35-31 6	30-1 7	
12. 	120”			Y	N	0			120-56 4	55-36 5	35-31 6	30-1 7	

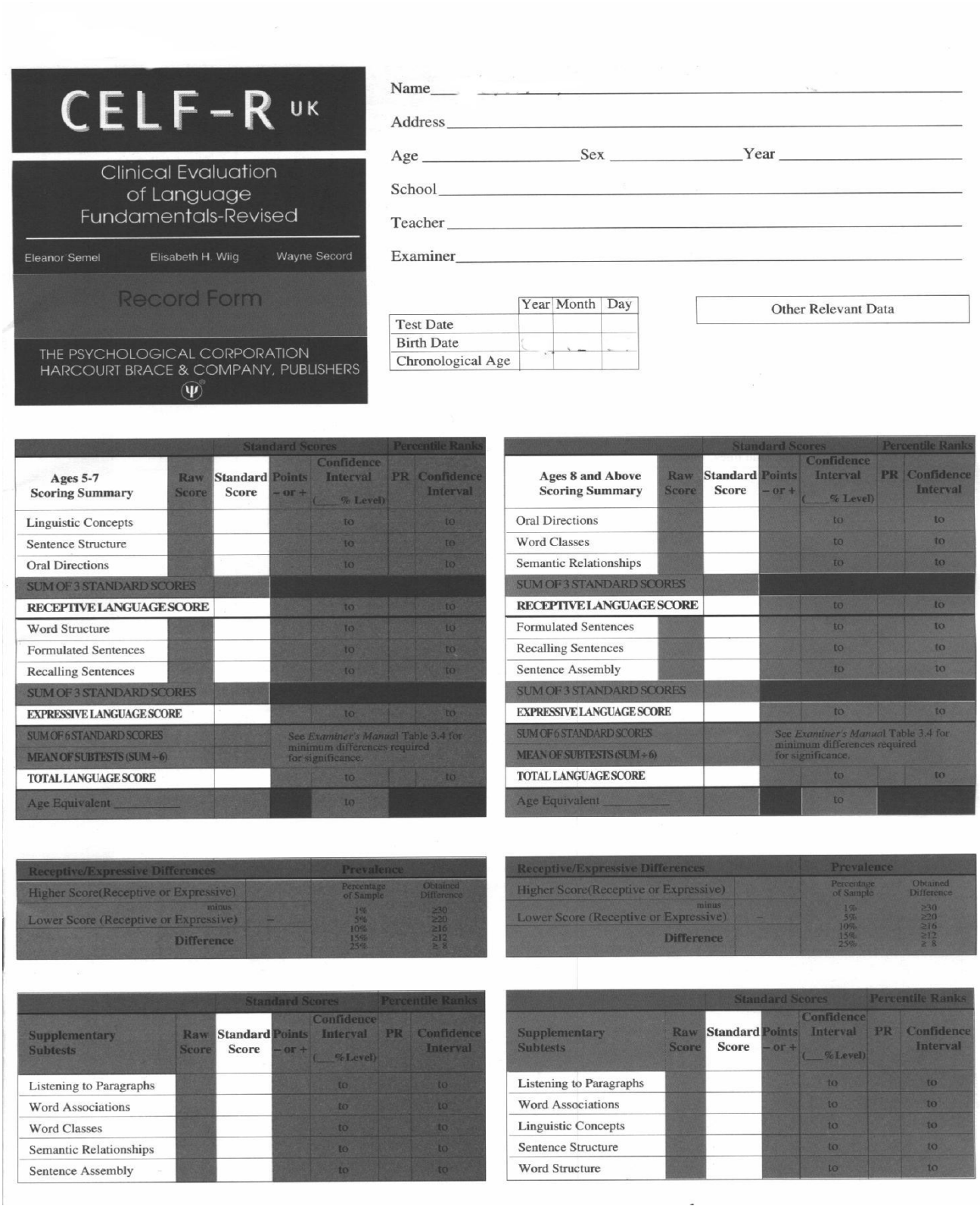
8. Vocabulary

Discontinue after 4 consecutive failures. / For ages 9-16, reserve sequence of preceding items after failure on either of first two items administered.

Item	**Response**	1) Score 0,1 or 2
1. Clock		
2. Umbrella		
3. Hat		
4. Thief		
5. Cow		
6. Bicycle		
7. Donkey		
8. Alphabet		
9. Ancient		
10. Leave		
11. Brave		
12. Island		
13. Absorb		
14. Nonsense		
15. Precise		

16. Transparent		
17. Boast		
18. Migrate		
19. Fable		
20. Strenuous		
21. Mimic		
22. Rivalry		
23. Seclude		
24. Unanimous		
25. Amendment		
26. Compel		
27. Imminent		
28. Affliction		
29. Dilatory		
30. Aberration		
	Total sub-test score (maximum =60)	

D.3. Clinical Evaluation of Language Fundamentals-Revised (CELF-R) Subtests



CELF-R UK

Clinical Evaluation of Language Fundamentals-Revised

Eleanor Semel Elisabeth H. Wiig Wayne Secord

Record Form

THE PSYCHOLOGICAL CORPORATION
HARCOURT BRACE & COMPANY, PUBLISHERS

Name_____

Address_____

Age _____ Sex _____ Year _____

School_____

Teacher_____

Examiner_____

	Year	Month	Day
Test Date			
Birth Date			
Chronological Age			

Other Relevant Data

Ages 5-7 Scoring Summary	Raw Score	Standard Score	Points – or +	Confidence Interval (__% Level)	Percentile Ranks PR	Percentile Ranks Confidence Interval
Linguistic Concepts				to		to
Sentence Structure				to		to
Oral Directions				to		to
SUM OF 3 STANDARD SCORES						
RECEPTIVE LANGUAGE SCORE				to		to
Word Structure				to		to
Formulated Sentences				to		to
Recalling Sentences				to		to
SUM OF 3 STANDARD SCORES						
EXPRESSIVE LANGUAGE SCORE				to		to
SUM OF 6 STANDARD SCORES			See *Examiner's Manual* Table 3.4 for minimum differences required for significance.			
MEAN OF SUBTESTS (SUM ÷ 6)						
TOTAL LANGUAGE SCORE				to		to
Age Equivalent _____				to		

Ages 8 and Above Scoring Summary	Raw Score	Standard Score	Points – or +	Confidence Interval (__% Level)	Percentile Ranks PR	Percentile Ranks Confidence Interval
Oral Directions				to		to
Word Classes				to		to
Semantic Relationships				to		to
SUM OF 3 STANDARD SCORES						
RECEPTIVE LANGUAGE SCORE				to		to
Formulated Sentences				to		to
Recalling Sentences				to		to
Sentence Assembly				to		to
SUM OF 3 STANDARD SCORES						
EXPRESSIVE LANGUAGE SCORE				to		to
SUM OF 6 STANDARD SCORES			See *Examiner's Manual* Table 3.4 for minimum differences required for significance.			
MEAN OF SUBTESTS (SUM ÷ 6)						
TOTAL LANGUAGE SCORE				to		to
Age Equivalent _____				to		

Receptive/Expressive Differences		Prevalence Percentage of Sample	Prevalence Obtained Difference
Higher Score(Receptive or Expressive)			
minus			
Lower Score (Receptive or Expressive)	–	1%	≥30
		5%	≥20
		10%	≥16
Difference		15%	≥12
		25%	≥ 8

Receptive/Expressive Differences		Prevalence Percentage of Sample	Prevalence Obtained Difference
Higher Score(Receptive or Expressive)			
minus			
Lower Score (Receptive or Expressive)	–	1%	≥30
		5%	≥20
		10%	≥16
Difference		15%	≥12
		25%	≥ 8

Supplementary Subtests	Raw Score	Standard Score	Points – or +	Confidence Interval (__% Level)	Percentile Ranks PR	Percentile Ranks Confidence Interval
Listening to Paragraphs				to		to
Word Associations				to		to
Word Classes				to		to
Semantic Relationships				to		to
Sentence Assembly				to		to

Supplementary Subtests	Raw Score	Standard Score	Points – or +	Confidence Interval (__% Level)	Percentile Ranks PR	Percentile Ranks Confidence Interval
Listening to Paragraphs				to		to
Word Associations				to		to
Linguistic Concepts				to		to
Sentence Structure				to		to
Word Structure				to		to

Formulated Sentences

Use	Picture Stimuli	Repetitions	Discontinue Rule
Ages 5+ Required to compute Expressive Language score and CELF-R Total Language score	*Stimulus Manual 2*	One repetition allowed	4 consecutive zero scores (or no responses)

Write the pupil's responses verbatim in the space provided.
Refer to Tables 2.1 and 2.2 in Section 2 of the *Examiner's Manual* for scoring guidelines.

Demonstration: books
Trial: shoes

			Score				
1.	car		3	2	1	0	NR
2.	gave		3	2	1	0	NR
3.	before		3	2	1	0	NR
4.	when		3	2	1	0	NR
5.	after		3	2	1	0	NR
6.	if		3	2	1	0	NR
7.	and		3	2	1	0	NR
8.	because		3	2	1	0	NR
9.	but		3	2	1	0	NR
10.	or		3	2	1	0	NR
11.	although		3	2	1	0	NR
12.	tall		3	2	1	0	NR
13.	either		3	2	1	0	NR
14.	neither		3	2	1	0	NR
Before presenting the remaining items, say, **"Now, I'll give you two words to use in the same sentence. You can use the words in any order you choose, but you must use both words in the same sentence. Here's the next picture."**							
15.	and	because	3	2	1	0	NR
16.	whatever	until	3	2	1	0	NR
17.	and	but	3	2	1	0	NR
18.	before	if	3	2	1	0	NR
19.	whenever	until	3	2	1	0	NR
20.	after	unless	3	2	1	0	NR
		Column Totals					
(See page 9 for Item Analysis)		**Raw Score**					

Recalling Sentences

Use	Picture Stimuli	Repetitions	Discontinue Rule
Ages 5+ Required to compute Expressive Language score and CELF-R Total Language score	None	None allowed	4 consecutive zero scores (no responses or sentences the 4 + errors)

Circle 3 if response is repeated exactly, 2 if there is one error, 1 if there are two to three errors, 0 if there are four or more errors, and NR if there is no response. Mark errors on the sentence or write an incorrect response verbatim in the space provided.

Demonstration: Turn left at the postbox.

Trial: The boat sailed across the lake.

		OK	1 err	2-3 err	4 + err	No Response
1.	The dog chased the cat.	3	2	1	0	NR
2.	Did the boy kick the ball?	3	2	1	0	NR
3.	The train was followed by the car.	3	2	1	0	NR
4.	Was the car followed by the police?	3	2	1	0	NR
5.	Didn't the rabbit eat the carrot?	3	2	1	0	NR
6.	The boy was not chased by the girl.	3	2	1	0	NR
7.	The boy and the girl picked the flowers.	3	2	1	0	NR
8.	Wasn't the ice cream bought by the girl?	3	2	1	0	NR
9.	Has the mouse been chased by the cat?	3	2	1	0	NR
10.	If the hat is too big, the man won't buy it.	3	2	1	0	NR
11.	The ball was not thrown by the boy or the girl.	3	2	1	0	NR
12.	The man who painted the railings was very kind.	3	2	1	0	NR
13.	The dog chased the ball, and the cat didn't follow.	3	2	1	0	NR
14.	The girl did not like the boy who lived down the street.	3	2	1	0	NR
15.	The big, brown dog chased the ~~red~~ ball.	3	2	1	0	NR
16.	The man stopped to pick up some milk even though he was late for work.	3	2	1	0	NR
17.	The trumpets and violins were played by the musicians.	3	2	1	0	NR
18.	If she ~~would have~~ baked some biscuits, they would have been eaten.	3	2	1	0	NR
19.	The boy sent a letter to the lady who ~~moved~~ away last year.	3	2	1	0	NR
20.	The children cut and pasted the ~~pictures~~ and hung them on the wall.	3	2	1	0	NR
21.	The ~~woman~~ has read the twelve ~~big~~, heavy, brown books.	3	2	1	0	NR
22.	The man who sits on the bench next to the oak tree is our mayor.	3	2	1	0	NR
23.	After the family had finished dinner, they decided to go for a ride in the country.	3	2	1	0	NR
24.	The boy who didn't turn up for practice wasn't allowed to play in the team until a week later.	3	2	1	0	NR
25.	The postman sorted, ~~labelled~~, bundled, and delivered the magazines.	3	2	1	0	NR
26.	The man ~~in the house~~ next door promised to water our flowers ~~during~~ our holiday.	3	2	1	0	NR
	Column Totals					
	Raw Score					

Sentence Assembly

Use	Picture Stimuli	Repetitions	Discontinue Rule
Ages 5-7 Supplementary subtest **Ages 8 +** Required to compute Expressive Language score and CELF-R Total Language score	*Stimulus Manual 2*	One repetition allowed	4 consecutive zero scores (errors or no responses)

Check the blank next to the pupil's responses. The pupil must give 2 of the sentence responses listed for an item to be scored as correct. Circle 1 for a correct response, 0 for an incorrect response, and NR for no response. If the pupil gives a response not listed, record it in the space provided.

Demonstration: **tall** **the boy** **is**
a) The boy is tall.
b) Is the boy tall?

Trial 1: **kicked** **the girl** **the boy**
a) The girl kicked the boy.
b) The boy kicked the girl.

Trial 2: **is** **in the chair** **the kitten**
a) The kitten is in the chair.
b) Is the kitten in the chair?

	Score		
1. **saw** **the dog** **the woman** ___a) The woman saw the dog ___b) The dog saw the woman.	1	0	NR
2. **the man** **the dog** **chased by** **was** ___a) The man was chased by the dog. ___b) The dog was chased by the man. ___c) Was the man chased by the dog? ___d) Was the dog chased by the man?	1	0	NR
3. **in the box** **the ball** **is** ___a) The ball is in the box. ___b) Is the ball in the box?	1	0	NR
4. **tall** **strong** **the man** **and** **is** ___a) The man is tall and strong. ___b) The man is strong and tall. ___c) Is the man tall and strong? ___d) Is the man strong and tall?	1	0	NR
5. **they watched** **they ate** **dinner** **TV** **before** ___a) They watched TV before they ate dinner. ___b) They ate dinner before they watched TV. ___c) Before they ate dinner, they watched TV. ___d) Before they watched TV, they ate dinner.	1	0	NR
6. **the girl** **the present** **the man** **gave** ___a) The man gave the girl the present. ___b) The girl gave the man the present.	1	0	NR
7. **the girls** **the boys** **walking** **were** **with** ___a) The boys were walking with the girls. ___b) The girls were walking with the boys. ___c) Were the boys walking with the girls? ___d) Were the girls walking with the boys? ___e) The girls were with the boys walking. ___f) The boys are with the girls walking.	1	0	NR
8. **the team** **the girls** **going to join** **are** ___a) The girls are going to join the team. ___b) Are the girls going to join the team?	1	0	NR

	Score		
9. **bone** **lost** **is** **the dog's** ___a) The dog's bone is lost. ___b) Is the dog's bone lost?	1	0	NR
10. **the boy** **the race** **to win** **going** **isn't** ___a) The boy isn't going to win the race. ___b) Isn't the boy going to win the race?	1	0	NR
11. **the fence** **to fall off** **going** **is** **the girl** ___a) The girl is going to fall off the fence. ___b) Is the girl going to fall of the fence?	1	0	NR
12. **on the table** **the ball** **put** **will** **you** ___a) You will put the ball on the table! ___b) Will you put the ball on the table? ___c) Put the ball on the table, will you?	1	0	NR
13. **and** **is running** **is falling** **the girl** **the boy** ___a) The girl is running and the boy is falling. ___b) The boy is running and the girl is falling. ___c) The boy is falling and the girl is running. ___d) The girl is falling and the boy is running.	1	0	NR
14. **is painting** **is cutting** **and** **the man** **the girl** **the grass** **the house** ___a) The man is painting the house, and the girl is cutting the grass. ___b) The girl is cutting the grass, and the man is painting the house. ___c) The girl is painting the house, and the man is cutting the grass. ___d) The man is cutting the grass, and the girl is painting the house.	1	0	NR
15. **the car** **I** **dad bought** **that** **like** ___a) I like the car that Dad bought. ___b) Dad bought the car that I like. ___c) The car that I like Dad bought. ___d) The car that Dad bought I like.	1	0	NR
16. **the lamp** **the woman** **the table** **put** **didn't** **on** ___a) The woman didn't put the lamp on the table. ___b) Didn't the woman put the lamp on the table?	1	0	NR
Subtotal			

Sentence Assembly Continued

	Score		
17. **the** **played** **sister** **and** **and** **brother** **the piano** **the guitar** ___a) The brother and sister played the piano and the guitar. ___b) The sister and brother played the piano and the guitar. ___c) The sister and brother played the guitar and the piano. ___d) The brother and sister played the guitar and the piano.	1	0	NR
18. **the girl** **the boy** **a letter** **send** **did** ___a) The girl did send the boy a letter. ___b) Did the girl send the boy a letter? ___c) The boy did send the girl a letter. ___d) Did the boy send the girl a letter?	1	0	NR
19. **it** **it** **I want** **expensive** **even though** **is** ___a) Even though it is expensive, I want it. ___b) I want it even though it is expensive.	1	0	NR
20. **the man** **the boy** **was lost** **whose** **by** **dog** **was met** ___a) The man was met by the boy whose dog was lost. ___b) The boy was met by the man whose dog was lost. ___c) The man whose dog was lost was met by the boy. ___d) The boy whose dog was lost was met by the man.	1	0	NR

	Score		
21. **she left** **she caught** **the house** **the bus** **after** ___a) After she left the house, she caught the bus. ___b) She caught the bus after she left the house.	1	0	NR
22. **was tall** **her head** **who** **the girl** **bumped** ___a) The girl who was tall bumped her head. ___b) The girl who bumped her head was tall.	1	0	NR
Raw Score			

Item Analysis for Sentence Assembly

Category	Items			
Declarative, Active	1	**3**	**9**	
with coordination	**4**	13	14	17
with prepositional phrase	**7**	**16**		
negative	**10**	**16**		
with infinitival phrase	**8**	**10**		
with direct and indirect object	6	**18**		
with subordinate clause	5	19	21	
with relative clause	15	**20**	22	
Declarative, Passive	**2**	**20**		
Imperative	**12**			
Interrogative	**3**	**9**		
passive	**2**			
with coordination	**4**			
with prepositional phrase	**7**	**12**	**16**	
with infinitival phrase	**8**	**10**	11	
negative	**10**	**16**		
with direct and indirect object	**18**			

Semantic Relationships

Use	Picture Stimuli	Repetitions	Discontinue Rule
Ages 5-7 Supplementary subtest **Ages 8 +** Required to compute Receptive Language score and CELF-R Total Language score	*Stimulus Manual 2*	One repetition allowed	Discontinue by section only. 4 consecutive 0 scores per section (errors or no responses)

Check the blank next to the pupil's responses. Circle 1 for a correct response, 0 for an incorrect response, and NR for no response.
The pupil must give both responses indicated in colour for an item to be scored as correct.

Trial 1: A man is bigger than
a) a house c) **a spoon**
b) **a coin** d) a plane

Trial 2: Jim was hit by Fred. John was hit by Frank. who was hit?
a) **Jim** c) Fred
b) **John** d) Frank

Comparative Relationships	Score		
1. Footballs are bigger than ___a) bicycles ___c) **apples** ___b) **pencils** ___d) cars	1	0	NR
2. Birds are faster than ___a) **tortoises** ___c) rockets ___b) **kites** ___d) planes	1	0	NR
3. Books are heavier than ___a) TVs ___c) chairs ___b) **feathers** ___d) **letters**	1	0	NR

	Score		
4. Hours are longer than ___a) **minutes** ___c) **seconds** ___b) days ___d) mornings	1	0	NR
5. Rooms are smaller than ___a) flowers ___c) tables ___b) **buildings** ___d) **houses**	1	0	NR
Subtotal			

D.4. Child Behavior Checklist (CBCL)

Child I.D. Number _____ Date of birth _____ Date of administration _____
Below is a list of items that describe children. For each item that describes your child now or within the past 6 months, please circle the 2 if the item is very true of your child. Circle 1 if the item is somewhat or sometimes true of your child. If the item is not true of your child, circle the 0. Please answer all items as well as you can, even if some do not seem to apply to your child.

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

0	**1**	**2**	1.	Acts too young for his/her age	**0**	**1**	**2**	30.	Fears going to school
0	**1**	**2**	2.	Allergy(describe) _____	**0**	**1**	**2**	31.	Fears he/she might think or do something bad
0	**1**	**2**	3.	Argues a lot	**0**	**1**	**2**	32.	Feels he/she has to be perfect
0	**1**	**2**	4.	Asthma	**0**	**1**	**2**	33.	Feels or complains that no one loves him/her
0	**1**	**2**	5.	Behaves like opposite sex	**0**	**1**	**2**	34.	Feels others are out to get him/her
0	**1**	**2**	6.	Bowel movements outside toilet	**0**	**1**	**2**	35.	Feels worthless or inferior
0	**1**	**2**	7.	Bragging, boasting	**0**	**1**	**2**	36.	Gets hurt a lot, accident-prone
0	**1**	**2**	8.	Can't concentrate, can't pay attention for long	**0**	**1**	**2**	37.	Gets in many fights
0	**1**	**2**	9.	Can't get his/her mind off certain thoughts: obsessions (describe) _____	**0**	**1**	**2**	38.	Gets teased a lot
0	**1**	**2**	10.	Can't sit still, restless, or hyperactive	**0**	**1**	**2**	39.	Hangs around with children who get in trouble
0	**1**	**2**	11.	Clings to adults or too dependent	**0**	**1**	**2**	40.	Hears things that aren't there (describe) _____
0	**1**	**2**	12.	Complains of loneliness	**0**	**1**	**2**	41.	Impulsive or acts without thinking
0	**1**	**2**	13.	Confused or seems to be in a fog	**0**	**1**	**2**	42.	Likes to be alone
0	**1**	**2**	14.	Cries a lot	**0**	**1**	**2**	43.	Lying or cheating
0	**1**	**2**	15.	Cruel to animals	**0**	**1**	**2**	44.	Bites fingernails
0	**1**	**2**	16.	Cruelty, bullying or meanness to others	**0**	**1**	**2**	45.	Nervous, high-strung, or tense
0	**1**	**2**	17.	Day-dreams or gets lost in his/her thoughts	**0**	**1**	**2**	46.	Nervous movements or twitching (describe) _____
0	**1**	**2**	18.	Deliberately harms self or attempts suicide	**0**	**1**	**2**	47.	Nightmares
0	**1**	**2**	19.	Demands a lot of attention	**0**	**1**	**2**	48.	Not liked by other children
0	**1**	**2**	20.	Destroys his/her own things	**0**	**1**	**2**	49.	Constipated, doesn't move bowels
0	**1**	**2**	21.	Destroys things belonging to his/her family to other or other children	**0**	**1**	**2**	50.	Too fearful or anxious
0	**1**	**2**	22.	Disobedient at home	**0**	**1**	**2**	51.	Feels dizzy
0	**1**	**2**	23.	Disobedient at school	**0**	**1**	**2**	52.	Feels too guilty
0	**1**	**2**	24.	Doesn't eat well	**0**	**1**	**2**	53.	Overeating
0	**1**	**2**	25.	Doesn't get along with other children	**0**	**1**	**2**	54.	Overtired
0	**1**	**2**	26.	Doesn't seem to feel guilty after	**0**	**1**	**2**	55.	Overweight

misbehaving

0 1 2 27. Easily jealous

0 1 2 28. Eats or drinks things that are not food (describe) _____

0 1 2 29. Fears certain animals, situations, or places, other than school (describe) _____

0 1 2 56. e) Rashes or other skin problems
0 1 2 cont f) Stomach aches or cramps
0 1 2 g) Vomiting or throwing up
0 1 2 h) Other (describe)_____

0 1 2 57. Physically attacks people
0 1 2 58. Picks nose, skin, or other parts of body (describe) _____
0 1 2 59. Plays with own sex parts in public
0 1 2 60. Plays with own sex parts too much
0 1 2 61. Poor school work
0 1 2 62. Poorly co-ordinated or clumsy
0 1 2 63. Prefers playing with older children
0 1 2 64. Prefers playing with younger children
0 1 2 65. Refuses to talk
0 1 2 66. Repeats certain acts over and over: compulsions (describe) _____

0 1 2 67. Runs away
0 1 2 68. Screams a lot
0 1 2 69. Secretive, keeps things to self
0 1 2 70. Sees things that aren't there _____
0 1 2 71. Self-conscious or easily embarrassed
0 1 2 72. Sets fires
0 1 2 73. Sexual problems (describe) _____
0 1 2 74. Showing off and clowning

0 1 2 56. Physical problems without known medical cause
0 1 2 a) Aches or pains
0 1 2 b) Headaches
0 1 2 c) Nausea, feels sick
0 1 2 d) Problems with eyes _____

0 1 2 86. Stubborn, sullen, or irritable
0 1 2 87. Sudden changes in mood or feelings
0 1 2 88. Sulks a lot
0 1 2 89. Suspicious
0 1 2 90. Swearing or obscene language
0 1 2 91. Talks about killing self
0 1 2 92. Talks or walks in sleep (describe) _____
0 1 2 93. Talks too much
0 1 2 94. Teases a lot
0 1 2 95. Temper tantrums or hot temper
0 1 2 96. Thinks about sex too much
0 1 2 97. Threatens people
0 1 2 98. Thumb-sucking
0 1 2 99. Too concerned with neatness or cleanliness
0 1 2 100. Trouble sleeping (describe) _____
0 1 2 101. Truancy, skips school
0 1 2 102. Underactive, slow moving, or lacks energy
0 1 2 103. Unhappy, sad or depressed
0 1 2 104. Unusually loud
0 1 2 105. Uses alcohol or drugs (describe) _____
0 1 2 106. Vandalism
0 1 2 107. Wets self during the day

0	**1**	**2**	75.	Shy or timid	**0**	**1**	**2**	108. Wets the bed
0	**1**	**2**	76.	Sleeps less than most children	**0**	**1**	**2**	109. Whining
0	**1**	**2**	77.	Sleeps more than most children during the day and/or night (describe) _____	**0**	**1**	**2**	110. Wishes to be of opposite sex
0	**1**	**2**	78.	Smears or plays with bowel movements	**0**	**1**	**2**	111. Withdrawn, doesn't get involved with others
0	**1**	**2**	79.	Speech problem (describe) _____	**0**	**1**	**2**	112. Worrying
0	**1**	**2**	80.	Stares blankly	**0**	**1**	**2**	113. Please write in any problems your child has that were not listed above:
0	**1**	**2**	81.	Steals at home				
0	**1**	**2**	82.	Steals outside the home				
0	**1**	**2**	83.	Stores up things he/she doesn't need (describe) _____				
0	**1**	**2**	84.	Strange behaviour describe _____				
0	**1**	**2**	85.	Strange ideas (describe) _____				

D.5. Separation Anxiety Test (SAT) Protocol

Separate photographs are used for boys and girls so it is of vital importance that you use the appropriate set depending on the gender of the child being tested. The photographs are labeled G1-G9 for girls and B1-B9 for boys as indicated on their back along with each of the photograph's title.

Introduce the SAT as follows:

"I have got a number of photographs which show a child about the same age as you in different situations which happen nowadays in a lot of families. Maybe these situations have happened to you, maybe not. Regardless of whether or not the same thing happened to you, I would like you to tell me how you think the child in the photograph might feel about the situation and what s/he would do following the situation, or, what would s/he do next. This is not a test and there are no right or wrong answers. I want your opinion about the child in the photograph. Okay?

Present each photograph by reading the title as you hold the photograph in front of the child. Do not embellish on the title or give further explanation of what is going on in the photograph. If the child asks for more information then just say that it is up to him/her and that s/he should make up any story s/he wants for what is happening.

1) **The boy/girl is going away on a school trip for two weeks. Here s/he is saying goodbye to his/her mum and dad.**
2) **Mum is going shopping and the boy/girl is staying at home alone.**
3) **Mum is going into hospital.**
4) **Mum and dad are going out for the evening.**
5) **Dad is leaving home after an argument.**
6) **The boy/girl is in town with his/her dad. Dad says "Go on and spend your pocket money, I'll wait here."**
7) **It is the boy's/girl's first day at a new school.**
8) **The boy's/girl's dad is going away to work.**
9) **Mum and dad are going away for a few days and the boy/girl is staying with his/her uncle.**

For each photograph presented the child is asked the following questions:

1) **"How does the boy/girl feel?"**

For this question try to elicit a feeling (for example, "he feels lonely") **and a justification of that feeling** (for example, "because he misses his parents"). However, it is likely that some children will not be able to give both, even after some probing.

PROBES:

Use the following probes below for a given type of answer that the child might provide.

Child's response	Probe
If the child gives an <u>ambiguous feeling</u>, e.g., "weird", "strange", "confused", "bad", "not so good", "not happy"	"What kind of feeling is that like?" or "How would that feel?"
If the child gives an <u>action instead of a feeling</u> to the feeling question, e.g., "he feels like going over to a friend's house"	"If s/he were going to do that, how would s/he feel about it?"
If the child gives a feeling but <u>no justification,</u> e.g., "s/he feels angry" (and does not elaborate)	"Why would s/he feel angry?"

If the child does not appear to be able to give both a feeling and a justification even after providing at least one probe, then do not probe further and move on.

2) "What is the boy/girl going to do next?" Can add, "That is, following the situation in the photograph?"

For this question get as many different answers as the child will give without repeating themselves. **Always acknowledge an answer regardless of whether it is constructive or destructive one. Do not say more than just "what will s/he do next?" or "what will s/he do following the situation?"**

PROBES:

If the child says "I don't know", then probe by reminding him/her of the feeling that they indicated in the earlier feeling question. For example, "well, just before you said that she is going to feel sad. If she is going to feel that way, what might she do next?" However, a child who says "s/he isn't going to do anything" is not the same as a response of "I don't know". In such a case, DO NOT use probe as above and instead ask "do you have any other ideas?"

Following this question always probe: "Is there anything else?" or "Do you have any other ideas?" or "Is there anything else that s/he might do?"

D.6. Adult Attachment Interview (AAI) Protocol

Introduction

I'm going to be interviewing you about your childhood experiences, and how those experiences may have affected your adult personality. I'd like to ask you about your early relationship with your family, and what you think about the way it might have affected you. We'll mainly focus on your childhood, but later we'll get on to your adolescence and then to what's going on right now. This interview usually takes about an hour.

1. **Could you start by helping me get to know your early family situation, where you lived etc? Where born, if you moved around? Your family occupation?**
   - Multiple caregivers - Who raised you?
   - See much of grandparents? Died before birth? Did your parents tell you about them?
   - Anyone else living with you?

2. Can you describe your relationship with your parents as a young child from as far as you can remember?

3. Can you choose 5 adjectives to describe your relationship with MOTHER from as far back as you can remember (5-12yrs)? This may take a while; I'll ask why you chose them. (Write down).
   - Your relationship with her was _____. Any memories or incidents that come to mind with respect to _____? Repeat for other 4 words.
   - Long silence - take another minute and see if anything comes to mind.
   - General description - Good general description, but I'm wondering if there was a specific time that happened, that made you think about it as _____?

4. **Repeat question 3 and probe for FATHER.**

5. **Which parent did you feel closest to? Why? Why not other parent?**

6. **When you were upset as a child, what would you do?**
   - Upset emotionally when little, what would you do? Specific time?
   - Hurt, physically? Specific incidents?
   - Ever ill when little? What usually happened?
   - Do you remember **being held** by either of your parents at any of these times?

7. What is the first time you remember being separated from your parents? Any other times?
   - How did you respond? Do you remember how your parents responded?

8. **Did you ever feel rejected as a young child? Looking back you may realize it wasn't really rejection, but do you remember ever having <u>felt</u> rejected in childhood.**
   - How old were you when you first felt this way, and what did you do?
   - Why do you think your parents did those things? Do you think they realized you felt rejected?

   8a. Were you ever frightened or worried as a child?

9. **Were your parents ever threatening with you in any way - maybe for discipline, or jokingly?**

- Some say parents threatened to leave them/send them away/used silent treatment - did this ever happen?

9a. Some people have memories of threats or of some kind of behavior that was abusive. Did anything like this ever happen to you/in your family?

- How old were you/How often?
- Do you feel this experience affects you now as an adult? Does it influence your approach to you own child?
- Any such experiences involving people outside your family? If yes repeat above probes.

10. How do you think your overall experience with your parents affected your adult personality?

- Any aspects to your early experience that held/set development back/negative effect on the way you are now?

11. Why do you think your parents behaved the way they did during your childhood?

12. Were there any other adults you were close to (like parents) as a child?

- Any adults especially important though not parental?

13. Did you experience the loss/death of a parent (or other close loved one) while <u>young</u>?

- Could you tell me the circumstances, how old were you?
- How did you respond then? feelings at that time?
- Have your feelings regarding this death changed much over time?
- Did you attend the funeral/what was this like for you?
- What was the effect on your other parent/household? How did this change over time?
- Would you say this loss affected your adult personality?
- How does it affect your approach to your own child?

13a. Did you lose any other important persons during your childhood? Prompt as above.

13b. Have you lost other close persons, in adult years? Prompt as above.

14. Other than any difficult experiences you've already described, have you had any other experiences you'd regard as potentially traumatic?

- Any overwhelmingly or immediately terrifying experiences.

15. I'd like to ask a few questions about your relationship with your parents. Were there any changes in your relationship after childhood? We'll get to the present in a moment, but now I mean changes between your childhood and your adulthood?

16. What is your relationship with your parents like now as an adult? Your current relationship.

- How much contact with your parents at present?
- What is the relationship with your parents like currently?
- Are there any sources of dissatisfaction in your current relationship? Any sources of special satisfaction?

17. **I'd like to move now to a different sort of question about an aspect of your current relationship with your child/children/imaginary 1-yr old. How do you respond now, in terms of feelings, when you separate from your child/children? Do you ever feel worried about child?**

18. **What would 3 wishes for your child 20 years from now be? Partly the kind of future you'd like to see for your child. I'll give you a minute or two to think about this one.**

19. **Is there any particular thing you feel you learned above all from your own childhood experiences? Maybe something you've gained from the kind of childhood you had?**

20. **We've been focusing a lot on the past. I'd like to end looking more into the future by asking what you hope your (imagined) child might have learned from their experience of being parented by you.**

D.7. Manchester Child Attachment Story Task (MCAST) Protocol

THE MANCHESTER CHILD ATTACHMENT
STORY TASK (MCAST)

Jonathan Green, Charlie Stanley, Ruth Goldwyn
University of Manchester

Aim

The child attachment interview is a semi-structured play assessment designed for children between about 4 and 7 years inclusive. It aims to evoke within a controlled and repeatable setting patterns of behaviour and reaction from the child which originate from an "inner working model" of attachment relationships that a child is thought to have developed at this time. It is not intended as a general play interview and should be used as part of a comprehensive assessment.

Theoretical Background

Attachment theory argues that a specific "behavioural system" has grown up through evolution in relation to the infant experiences of danger, isolation and other threat. This behavioural system has survival value because it results in the infant seeking proximity and safety with a familiar and safe adult. Elements of the system are activated very early on in development and different developmental skills recruited to it in later months and years. Bowlby's formulation emphasised that this "behavioural system" was discreet and was not equivalent to general behaviour or other personality traits. Indeed, as the child got older, it n-fight only become activated and apparent under particular situations of distress. However, because the system is concerned with basic feeling states of security, anxiety and the modulation of distressing affect, it forms a core component of the developing personality. It would later effect, Bowlby hypothesised, many areas of developing social functioning, particularly those around intimate relationships and the core sense of self and security.

As cognitive development - including memory, anticipation, reflectiveness, and planning - develops between the second and fourth year, it is hypothesised that the early experiences as infant are internalised into a cognitive model or map, which guides behaviour and generates expectations about the world. As this internalisation proceeds it becomes less accessible to observation and may correlate with external behaviour to a diminishing degree (see Crittenden 1991). While the early work on the attachment behavioural system in infancy largely proceeded by way of a direct observation of infant behaviour under certain conditions, the challenge in the assessment of attachment patterns in the later preschool years comes to be this increasing internalisation of attachment constructs. Unless one postulates that attachment patterns are merely a marker for ongoing relationships and thus have no particular internalised structure, it cannot be assumed that a child's overt behaviour will continue simply to reflect attachment experience.

In adults this process further advanced and the effort to elicit attachment patterns within adult experience has largely proceeded with way of detailed verbal interview (The Adult Attachment Interview - Main and Goldwyn). This interview proceeds using some basic assumptions about memory processing and in particular about how early experience is so processed as to be available to current consciousness - and thus memory and action. The assumption is that if defensive patterns in relation to attachment have been developed over childhood, then the memory processing will have been in some way distorted and the flow of current consciousness in relation to attachment themes will be perturbed by unresolved memory traces and unprocessed experience. The Adult Attachment Interview seeks to "surprise the unconscious" by asking unexpected questions which tap so-called semantic memory structures (or an overall patterning of experience in the n-find) built up over time and to juxtapose these with episodic memory structures (for specific incidences). A number of these questions within the Adult Attachment Interview concern experiences, which in theory should have evoked attachment behaviour in childhood, such as separations, distress, hurt or illness.

In a similar way, the Child Attachment Interview aims to surprise the young child's early version of the construct of attachment relationships, using techniques appropriate to the younger age. The technique of an interview for children between 4 and 7 must use elements of behavioural observation appropriate for infancy as well as elements of dialogue and conversation appropriate for adults. A key feature of the interview is that the child is repeatedly engaged at both an emotional and cognitive level in a stressful imagined situation involving an identified self. It is assumed that the experiencing of this moment of worry or panic will (as in the AAI) "surprise" the child's internal cognitive structures and lead them to act out spontaneously the way in which these relationships have been processed so far in their lives. We hope in this way to uncover the beginning stages of both the secure attachment experience and also the varieties of psychological adaptation that children make in the face of adverse environmental experience. The relationship between the behaviour stimulated in this way and behaviour in other situations is examined using a number of "control vignettes" which are built into the interview. General issues relating to the use of narrative techniques of this kind in assessing attachment phenomena are reviewed by Oppenheim (1995).

General comments on the Interview

1. Role of the Interviewer

The role of the interviewer is quite particular in this interview and needs careful attention. At the beginning there should be a friendly engaging rapport, which gradually brings the child into a focus on the task of the interview. The interviewer then has the task of evoking a degree of distress in the child. This is often done by the use of the observer's own affect although the focus of attention should remain on the symbolic play materials. After the handover to the child to complete the story, the interviewer becomes an observer for the test period. When this phase for each vignette has been completed the interviewer has a more active role for the probes and then takes the lead again in introducing the next vignette and bringing the situation again to a point of affective intensity.

At the end of the interview, it is important that there be a wind down period. For this there is a fairly neutral "family outing" vignette. During this time, it is important that the interviewer be naturally interactive, returning gradually to the kind of rapport with which the interview started. It is not appropriate to make recordings during this stage and observations even privately should be kept to a minimum. In this way we hope that the child is given an opportunity to process the interview and to minimise the chance that a child be left with distressing after effects.

Although the interview uses play materials familiar from non-directive and other forms of play therapy, it should be noted that the interviewer has a different role here to those situations. In particular, there is no use of the relationship between the child and the interviewer, no focus on transference, and the interviewer takes an active lead in structuring the interview to number of occasions. In this, the parallel is with a semi-structured verbal interview in adult psychiatry. For repeatability it is important that interviewers practice the sequence of the interview until they are well memorised and it is best if the work is done by someone with some clinical experience with young children.

2. Orientation

The orientation part of the interview mirrors the same part of the AAI. The child is shown the room (see room set-up) and focused first on the pencil and paper. They are asked to do a drawing of their family, "so I know who is in your family". Many children win have a clear sense of what this means and proceed with the task. Some will have questions about who they are supposed to include. Although the information in this section can be useful, it is mainly intended as a setting exercise and thus if the task seems as though it is going to be very complex for the child, the interviewer can take the decision to restrict the task: viz. "just show me who you live with". The child should not be rushed through this exercise but some children drawn obsessively slowly and will need pacing.

3. Choice of Dolls

The child is shown a selection of dolls which have been pre-selected as racially appropriate. They are asked to choose a doll to represent themselves and their mother/father/other adult in whom the interviewer is interested in. Once they have made this choice, the other dolls should be put away (they are brought out later for the final vignette of the session). The child should not be able to get extra dolls during the interview and some distractible children will need limit setting. Once the dolls have been selected they are identified with a name. In the child's case, this should be the child's name and in the adult's case the name the child chooses. Thereafter, the dolls should be referred to by those names Viz. "Anna doll" or "mummy doll": thus reinforcing the identification of the child with the symbolic material. Once the initial identification is made however, the child doll needs to be allowed to exist relatively independently in the play space to encourage symbolic expression. Too literal a connection between the dolls and the child here and now is avoided. Interviewers can reinforce this symbolic play in a number of subtle ways and this will help the interview -the best thing is to watch demonstration tapes.

4. Orientation to the Dolls House

This is a continuation of the selection of dolls and orientates the child to the other materials to be used in the interview. To a reasonable extent the child can create their own play space using the materials but the interviewer needs to be alert to controlling or obsessional or overactive children who will begin to break the bounds of the structured format. It must be indicated here early on that this is a special kind of playing and the child needs to listen to the interviewer to find out what is going to go on. To reinforce this the interviewer explains the format of the interview. "I am going to show you a story involving X and mummy until I get to a certain point, then I am going to ask you to finish the story off'. The control vignette establishes the structure and in it the implicit rules governing the interview must be conveyed clearly.

5. Test Vignettes

For each vignette, the interviewer can encourage the child to participate in setting up the action. Then the interviewer takes the lead in setting the story and developing the necessary level of affective arousal. This can be done through sound, through talk, through noises, through the interviewer's own affect, but the child must be "brought along" with the interviewer. The interviewer should not proceed to the next phase in each vignette until he or she is satisfied that he has brought the child to the necessary affective level. Clearly, children will differ in the quality and intensity of their affective expression and this should be taken into account. The affect elicited should be appropriate to the context and thus will vary from story to story in its detail. This will avoid the repetition of a similar sort of distress time after time. At the point at which the involvement is made, the interviewer then asks the child to "finish the story". That point represents the beginning of the test situation. The child's behaviour, habitus, expression, vocalisation and style are all observed during the test period as well as the content of the behaviour acted out. The child is encouraged to verbalise the story along with the actions but should not be allowed to verbalise without acting on the dolls.

Prompts

The child should generally be left to make a spontaneous completion of the story. Prompts can be used judiciously to facilitate the narrative in some situations:

1. Prompts to encourage a stuck child ("and then what….." or and then what happens…..")

2. For a highly disorganised/distractible child who has lost the boundaries of the task. A prompt can be used to refocus the child and the interviewer can use this to test whether such a limited prompt can redirect the child to the task or whether they are shying away from the task in a resistant way. E.g. "you remember you were completing a story…" or then more explicitly, "you remember the story you were completing about the boy who hurt his knee…."

End of Task

Theoretically the end of each vignette should be when distress has been signalled. proximity has taken place, distress assuaged and the attachment behavioural system replaced by exploratory behaviour. That moment of transition represents the end of the vignette session. For many children (mainly secure) this end will be clear, for other children the end may not be and this will be a matter for rating. When the ending is unclear, the interviewer will sometimes have to use their judgement as to how long to let the child continue. In practice interviewers look for a point in the narrative where it is clear that the play has "shifted gear" into some other goal orientation.

When the examiner feels there is a natural pause or a clear end to the playing out of the completed story, then several probes are introduced. The aim is to get a rating of the child doll and parent dolls' cognitive/affective state at the end of the vignette session. In technique this should constitute a natural amplification of what has already been communicated during the doll play.

Probes:

a) *"And what is (child) feeling and thinking now?*" Both feelings and thoughts are relevant here and children of this age will often not be able to distinguish between them - in any event what will be most valuable will be an affect laden thought. The child's response to this probe should be recorded.

b) *'And what is the child going to do now.....* (This probe may be unnecessary if the child has clearly acted out what they are going to do next, but there may be room for amplification). Notes should be made of whether the child's response to this question seems appropriate or not. (Some child will be able to identify feeling states but will not have any idea about what to do with them).

c) The same probes with the mother. Examiners need to be aware that children will often find the decentering involved here difficult and confusion may arise. If this is the case, then the probe should not be pursued although the fact is recorded.

Some children will wish to continue into elaborated, bizarre, destructive or chaotic play that may well represent a kind of flight of ideas. This play can be allowed to continue for a certain period while it is being informative but the interviewer should be wary of the child's tiredness and bring in limits when appropriate.

As with all interactive interviews in which the interviewer is given a certain amount of freedom to elicit a child's performance, there can be a tendency for interviewers to be active in coaxing normative reactions from a child. This needs to be avoided.

Closure

In the final vignette the child is asked to play out the kind of pleasurable family activity that might happen at a weekend. The interviewer can be flexible here to an individual child's circumstance but the aim should be to allow the child to come back into a more descriptive mode about their surface life. The aim is not to get further information about family dynamics (although this may be tempting) but to allow the child to reconstruct their ordinary experience before the end of the session. The interviewer should thus aim to be affirming and supportive of any adaptive strengths represented in the family.

Returning to Parent

Usually children will be returned after the interview to their parents. This handover should be done positively and it is important that the child does not see the interview as a test. In front of the child the interviewer can just emphasise how much they have enjoyed and found interesting their time with the child and how well the child did and co-operated.

Observations about the reunion behaviour between child and parent may of course be pertinent.

CHILD ATTACHMENT INTERVIEW - METHOD

MATERIALS

Dolls House
Furniture and Toys
Doll figures - appropriate racial group and selection of child and adult dolls.
Video camera.

ROOM SET-UP

SEQUENCE

1) FAMILY PICTURE

Pencils and paper.
"Show me / draw me who's in your family."

2) SET OUT TOYS AND CHOOSE DOLL.

Child is offered a range of figures to choose a child and a mother. It is important that the identification is made between doll and child and between mother, doll and the child's mother. The doll should be called the same name as the child

3) INTRODUCING THE STORIES.

"What we're going to do is this. Firstly I'm going to tell you the beginning of a story with you and mummy in it. Then when we get into the story I'm going to ask you to show me with the dogs what happens next.

4) <u>CONTROL VIGNETTE - BREAKFAST</u>

The aim of this vignette is to familiarise the child with the procedure. It will also give incidental information about home structure, parenting style and characteristic child reaction patterns. etc.

The Parent doll and child doll are in bed asleep. The alarm goes off in parents room - parent gets up and goes down stairs to start with the breakfast. Then calls up to the child:
"Time to get up...

What happens next?

5) <u>TEST VIGNETTES</u>.

VIGNETTE I - NIGHTMARE

It's night time and here you and mum are in bed asleep.
Child can help you place the dolls where he/she thinks they should be.
It's in the middle of the night and everyone is fast asleep very quiet. Everything is very dark. Then suddenly X doll wakes up (act this out with the doll).
She says oohh.. I've had a horrible dream... oohhh.. horrible dream. And she starts to cry and she says .. oohhhh .... horrible dream....

Now you show me what happens next.

VIGNETTE 2 - HURT KNEE

For this story it's daytime and mummy's inside the house - what do you thinks she's doing there?

Child can help place the parent doll as they see fit
X doll is outside playing in the garden. What does X like to play - what would he be playing?
OK (whatever it is - act it out - say football) *He's playing football in the garden running around kicking it here and there* (room for creativity as the game is set up but not too elaborate and not allowing involvement of anyone else)

He's running along and suddenly ... oohh .. he falls over ... and... "oowww! " he's hurt his knee and he looks down and he sees it's bleeding ... and it hurts.. and he says "oowww my knee's hull ..my knees hurt... "

What happens next in the story?

VIGNETTE 3 - ACHIEVEMENT

This vignette is intended as a relief from the intensity of the distress vignettes and an opportunity for the child to experience a story about a more pleasing event. But the quality of attachment relationship will affect the child's self perception and the reaction to achievement as well as the response they expect from their parent is often revealing. Many reactions here especially in clinical groups are found to be paradoxical and patterns of expectation about success, self esteem and school related problems are also accessed. Psychometrics if the interview show that ratings on this vignette show weaker association with overall attachment status than some others but the vignette is retained to aid the rhythm of the interview. In coding a somewhat different weight is given to this vignette and no 6 (see later).

For this story we're in school
Child can help set up the school and say who is their teacher etc.
And in school they're doing some drawing and X does a lovely drawing on his paper (demonstrate with small piece of paper and make a little drawing)
And Y (teacher's name) *comes up and says "X - that's a beautiful drawing ... oh yes that's the best one I've seen today .... what a beautiful picture - you take it home at the end of the day and show your mummy" So it's the end of the day and X packs up her bag and* **puts** *the drawing inside (demonstrate).* Then *she goes home. She goes home and rings on the door bell*

It is important here that mummy is placed in an accessible position in the house but that any reaction from her is not anticipated by the examiner in the set up. The action of the child ringing on the door bell is the trigger for the hand over to the child - do not represent the mother coming to the door.

What happens next in the story?

VIGNETTE 4 - ILLNESS

In this story X doll is at home watching TV. What's your favourite TV programme?
X is watching that. Mum is next door - where do you think that she is?
Suddenly X has a pain in the tummy. And it gets worse and she says "oohhh ... I've got a pain in mytummyoowwwit'sgettingworse"Andshefeelshertummy-it'sahorriblepain. "Oowww"

What happens next in the story?

VIGNETTE 5 - FRIENDS FIGHTING

In this vignette, the distress induced relates to the child having an argument with a friend, falling out and the friend leaving and rejecting the child. The child is then left alone with the feeling of rejection (this is the stress stimulus) and then returns to mother. Because there are a number of confounding themes in this vignette, to do with peer conflict particularly, care must be taken to organise the vignette to allow the focus

to end up with a child-mother reunion. The vignette often induces a problem solving task for mother and child.

This story is about X doll playing with a friend. Who are you going to choose as your friend to play with? Let's find a doll

The interviewer brings out a selection of dolls at this point for the child to choose and to name. *So X and Y are playing together. What kind of thing would they play do you think?*
Go with the child's suggestion.

So they are playing (say hide and seek) together. (Act this out for a time). *Then suddenly Y says "I am fed up with this, I don't like this game and I don't like you anymore. You are not my best friend anymore and I think you are horrible. I am going away now and I am not going to play with you ever again. "*

The interviewer takes the friend doll out of the picture and puts it away in an inaccessible place.
So then X doll is left all alone feeling upset because his friend left and he goes home to where mum is.

What happens next in the story?

VIGNETTE 6 - SHOPPING

In this vignette, the child finds him or herself separated from mother in a crowd while shopping. To set up the vignette the dolls' house is taken away and furniture from the house or other props are used to create a shopping centre with buildings and streets. This only has to be schematic. The essential requirement is that it needs to be possible for the child not to be able to see the mother doll at the trigger point of the vignette. From experience, during this vignette, it is best not to identify shops particularly during the story. In particular, do not to identify sweet shops since this introduces some powerful conflicting themes!

In this story, X doll and mum are going shopping. Here they go into the shopping centre and look at all the shops and there are lots of people around and they have to hold on tight to each other. They look in this shop here and this shop here..... X doll is looking in this shop here..... At this point, show the child looking at a shop window and then take the mother doll around to another place which is out of sight of the child doll and leave her there.

And X doll looks around with all the people there and she can't see her mummy and there are all the people around but mummy's not there. She looks around and can't see her..... Then she feels very scared and she says "where's my mummy, where's my mummy.....

What happens next in the story?

STORY 10 (FAMILY TRIP)

This final story should not relate to attachment themes but is a closure story. The child can suggest a typical family trip that the family would do together. Other family members can be brought on to the scene and the child can act out a typical trip. It is valuable if the child is allowed to play naturally for some time until there seems a natural closure. During this phase, the examiner should not be rating but should be ordinarily responsive to the child and encouraging of them. The examiner, thus at this point, steps out of the role that they have maintained through the rest of the interview.

Jonathan Green Revised September 1997
CAIText4

Appendix E: Consent Forms and Documentation

E.1. Invitation Letter

Dear_____

For the past two years psychologists at University College London have been working with families and children of primary school age. We have been interviewing children and their families about their development, for example, friendships, milestones and relationships. Surprisingly little is known about how children of this age usually develop socially and emotionally, what sort of problems they commonly have and how long these last. Increasing our understanding in these areas should help us to help children better, in the future, when they have problems.

This year the University, with the cooperation of the staff at Camden and Islington Child Guidance Centres, hopes to increase the number of families involved in the project. Although the University and Clinic are working together, only information about the initial referral is being shared. Any other information or future relationships with either the project or with Clinic will not be shared in any way. This means, for instance, that your contact with the Clinic will not be affected at all by whether you decide to join the research project. They will not even know unless you want to tell them.

We would like to check that it would be all right for one of the research team to phone you or call round, to explain more about the project, and to see whether you would like to join us. If you return the attached slip we will be able to contact you either by post or telephone, or if you indicate that you would not like to learn more about the project we will know not to contact you again. In the meantime, if you have any questions or would like to contact us by phone, please feel free to call Duncan Barron of the Research Team on 0171 794 2313.

Please find enclosed a FREEPOST envelope for your use in order to return the reply slip below.
Thank you for thinking about this.
Yours sincerely,

Mary Target Ph.D.
Senior Lecturer in Psychology
University College London

✂ ----------

Date: ..... (PLEASE CHANGE INFORMATION IF NOT ACCURATE)

I «Title» «Mothers_First_name» «Mothers_Surname» and my child «Childs_First_name» «Childs_Surname» would LIKE / NOT LIKE to be contacted by one of the research team to explain more about the project, and to see whether we would like to join. Our telephone number is 0171 794-2313
.....

E.2. Information Letter for Parent

CAMDEN & ISLINGTON / UNIVERSITY COLLEGE LONDON RESEARCH STUDY

RESEARCH INFORMATION: PARENT

The Study's Purpose:
The purpose of this study is to understand child development and change. The tasks you and your child are invited to participate in will increase our knowledge of problems children are referred for and how they change following therapy. We will be able to share with you the overall results of the project as they become clear to us, if you would like us to.

What the Study Involves:
For you: You will be asked to complete questionnaires and to participate in interviews about your child's behavior and general milestones, as well as be interviewed about aspects of your own childhood and development. This will take approximately five hours in total, completed over two or three sessions. We would be able to meet you and your child at the same time or separately, at our research facilities in Hampstead, or in your own home.

For your child: These tasks are fun and administered in the manner of play. There is an interview about friends, a story that will need to be completed using toys, a story with pictures needing matching faces, and self-administered questionnaires. These tasks should take approximately five to six hours in total, completed over three sessions.

Participation:
Although we hope that you and your child will help us in carrying out the project, you are under no obligation to do so and are of course free to withdraw from the study at any time for any unstated reason. Your decision on whether or not to take part, or not to continue, will not affect your child's care in any way. However, we are hoping to follow a group of children over three years, to look at change over time, and would greatly appreciate those families who feel able to stay involved for follow-up appointments.

Confidentiality:
Written records of all research appointments will be kept securely and anonymously, identified by serial numbers. Three of the tasks with your child will need to be video-taped, and two interviews with your self will need to be tape-recorded and in these cases, the material will be stored very securely without names. Apart from being the basis of some ratings for the project, they may also be used for research training purposes within the project. Publication of results will be based on statistical descriptions of groups, and not involve disclosure of individual or identifiable information.

The Research Team can answer any problems or queries,
please contact Duncan Barron on 0171 794 2313

*** All proposals for research using human subjects are reviewed by an ethics committee before they can proceed. This proposal was reviewed by the Camden & Islington Community Health Services NHS Trust on the Ethics of Human Research as well as the Joint UCL / UCLH Committees on the Ethics of Human Research: Committee Alpha ***

E.3. Information Letter for Child

CAMDEN & ISLINGTON / UNIVERSITY COLLEGE LONDON RESEARCH STUDY

RESEARCH INFORMATION: CHILD

Why Are You Doing This Study?

We would like to know more about people like you, and the only way to find out is to ask.

What Will I Be Asked About? What Will I Have To Do?

You will be asked to do a number of different things, including:

a) Be asked about your friendships and your family;

b) Listen to stories and use toys to make up the endings;

c) Listen to stories with pictures and put matching faces on the people in the stories;

d) Fill in questionnaires about how you feel and what you think.

We will also be seeing the person who looks after you, to ask them a few questions. But primarily, we are interested in what you have to say.

How Long Will It Take To Do This? Where Will I Do It?

It will take about five to six hours to complete all of the above games. You and your parents will decide where you want to do this.

What If I Don't Want to Join or Change My Mind?

Whatever you decide to do will not affect your care at the Clinic, even if you decide later you don't want to be part of the project any more. If you find anything distressing or you change your mind in the middle, just tell us and you can stop. It is no problem, and you wouldn't need to tell us why.

Will Anyone Else Know What I Say?

Everything you do and say will be kept anonymously and confidentially - that means no one will know it is you - we use numbers and not your real names. Also, everything is kept locked away so no one can get to them.

*** All proposals for research using human subjects are reviewed by an ethics committee before they can proceed. This proposal was reviewed by the Camden & Islington Community Health Services NHS Trust on the Ethics of Human Research as well as the Joint UCL / UCLH Committees on the Ethics of Human Research: Committee Alpha **

E.4. Parental Consent Form

C O N F I D E N T I A L
University College London
PARENT CONSENT FORM

CONSENT TO PARTICIPATE IN RESEARCH STUDY

I (name of Parent/ primary carer*) .....

of (name of child) .....

Address: .....
.....
.....

agree that my child/ward* may take part in the research project undertaken by the University of London.

I give my consent for members of the research team to contact my child's/ward's school and for teachers at the school to complete questionnaires on my child's/ward's abilities and behavior at school.

School Address: .....
.....
.....

School Contact Name..... Position: ……

I confirm that the nature and demands of the research have been explained to me and that I understand and accept them.

I also understand that I may withdraw and may withdraw my child/ward from the research project if I find that I am/they are unable to continue for any reason or at any time.

Signed ..... **Date** .....

Witnessed by ..... **Date** .....

INVESTIGATOR'S STATEMENT

I have explained the nature, demands and foreseeable risks of the above research to the subject.

Name ..... **Position** .....

Signed ..... **Date** .....

E.5. Child Consent Form

C O N F I D E N T I A L

University College London

CHILD CONSENT FORM

CONSENT TO PARTICIPATE IN RESEARCH STUDY

I (name of Child) .....
of (address) .....
.....

agree to take part in the research project by the University of London.

I have been told what the Study is about and/or I have read the information sheet about this study which explains what I have to do. I have asked any questions I might have.

I understand that taking part in this project is not related to my treatment in any way.

I know that at any time I may decide not to continue if I do not want to.

Signed ..... **Date** .....

Witnessed by ..... **Date** .....

INVESTIGATOR'S STATEMENT

I have explained the nature, demands and foreseeable risks of the above research to the subject.

Name ..... **Position** .....

Signed by ..... **Date** .....

E.6. Manchester School Invitation Letter for Parent

BOOTH HALL AND UNIVERSITY COLLEGE LONDON

Child Development Study

Wednesday, 14th July 1999

Dear_____

For the past five years psychologists at Manchester University and University College London have been working with families and children of primary and secondary school age. We have been interviewing children and their families about their development, for example, friendships, milestones and relationships. Surprisingly little is known about how children of this age usually develop socially and emotionally. Increasing our understanding in these areas should help us to help children better, in the future, when they have problems.

You may remember that we undertook a similar interview with your child three years ago when they were in the first few years of school. The purpose of this current study is to follow up the children that we saw then, to see how they are developing now and how their thinking has changed over time. This will be a very valuable opportunity for us to learn more about how children develop over their school years. You were very helpful with the initial project and much of value came out of it. We would be very glad if you were able to help us again.

We would like to check that it would be all right for one of the research team to phone you to explain more about the project both to you and your child, and to see whether you would like to join us. If you return the attached slip we will be able to contact you by telephone, or if you indicate that you would not like to learn more about the project we will know not to contact you again. In the meantime, if you have any questions or would like to contact us by phone, please feel free to call Jonathan Green on 0161 220 5025 or Yael Shmueli-Goetz on 0171 794 2313.

Please find below a reply slip for your child to return to the schoolteacher in the next 3 days. Thank you for thinking about this.

Yours sincerely,

Jonathan Green and Yael Shmueli-Goetz

✂ ----------

Date: .....

I …….. and my child …….. would LIKE / NOT LIKE to take part in the Booth Hall and UCL Child Development study. I can be contacted by phone and our telephone number is .....

E.7. Manchester School Invitation Letter for Child

BOOTH HALL AND UNIVERSITY COLLEGE LONDON
CHILD DEVELOPMENT STUDY

Dear_____

You may remember when you were in infant school you helped with a project we were doing on how children develop. At that time, Charlie Stanley spent some time with you in school when you told stories using a dolls house and played other games. You were really helpful to us before and we would like it if you could help us again. We are interested now to see how you've grown and changed over the last 3 years and so would like to talk to you now that you are older.

What you would be asked to do?

We will be asking you to come along to see us with your mum or dad during the summer holiday for about an hour and a half. Because you're older we won't be asking you to tell us stories with dolls but will instead talk to you about your family. Our interview asks you to talk about what you think and feel about you and your family. It usually takes about 40 minutes. We will also ask you to draw a picture of your family and to make and complete sentences using pictures.

We've written a separate letter to your parents explaining what we're going to do and asking them to agree to you taking part in our project again. We would be happy for you to talk with your parents about this.

Please return the reply slip to your teacher at school in the next 3 days.

We look forward to seeing you again.

Jonathan Green and Yael Shmueli-Goetz

E.8. Manchester School Information Letter for Parent

THE BOOTH HALL AND UNIVERSITY COLLEGE LONDON

CHILD DEVELOPMENT STUDY

RESEARCH INFORMATION FOR PARENTS

The Study's Purpose:
The purpose of this study is to understand children's social and emotional development, and more specifically, to examine the way children form relationships with their parents and how these change over time. The tasks your child is invited to participate in will increase our knowledge of how children perceive early family relationships and how these perceptions develop and changed with age. The study forms a follow up to the study that we did three years ago and which you kindly then took part in. This time we will be able to see how your child's thinking and attitudes have developed during these years. As before, we are not looking specifically for 'problems' in this study but rather how normal children's understanding of family relationships develops as they grow.

What the Study Involves for your child:
In the first 10 minutes of the session we will ask your child to draw a picture of his/her family. This would be followed by an interview about your child's relationship with you and your partner, with his/her siblings, and other family members and friends. The interview is administered in a conversational style and gives the child an opportunity to talk about their current familial and social relationships, what sort of things they enjoy doing more or less, and what would they wish for the future. The interview will take approximately 45 minutes to complete. In the final 30 minutes of the session your child will be involved in a task that assesses expressive language using pictures. The duration of the whole session will take approximately an hour and a half.

What the study involves for you:
While your child is being seen we will ask you to fill in several questionnaires. These cover any important life events that may have occurred in the last 2-3 years, your child's behavior at home and at school, your child's temperament, and your general mood state. Completing these questionnaires would be very helpful in providing further information about your child's development in the last three years since we last saw him/her. In addition, information about your general mood would help us in evaluating your child's response. The completion of the questionnaires would take approximately 45 minutes.

Participation:
Although we hope that you and your child will help us in carrying out the project, you are under no obligation to do so and are of course free to withdraw from the study at any time for any unstated reason.

Confidentiality:
Written records of all research appointments will be kept securely and anonymously, identified by serial numbers. Two of the tasks with your child will need to be videotaped and in these cases, the material will be stored very securely without names. Publication of results will be based on statistical descriptions of groups, and not involve disclosure of individual or identifiable information. At the conclusion of the study the videotapes will be destroyed.

If you would like we would be happy to share with you the overall results of the project as they become clear to us.

The Research Team can answer any problems or queries, please contact Jonathan Green on 0161 220 5025 or Yael Shmueli-Goetz on 0171 794 2313

E.9. Coder Confidentiality Agreement

THE ANNA FREUD CENTRE

DEDICATED TO THE WELL-BEING OF CHILDREN

21 MARESFIELD GARDENS LONDON NW3 5SD TEL: +44 (0)20 7794 2313 FAX: +44 (0)20 7794 6506 WEB: www.annafreudcentre.org

CONFIDENTIALITY AGREEMENT

I understand that in having access to the Anna Freud Centre research interviews and transcripts, I am completely responsible for safeguarding the information that I am working with.

This means that I will not discuss any of the confidential information disclosed in the interviews with anyone, under any circumstances, and that I will not copy for personal use or distribute any confidential material given to me as part of the training and reliability.

I realise that these restrictions are essential to protect the privacy of research participants who have trusted the Centre to do this.

Print Name:

Signature: Date:

Witness: Date:

E.10. Website Disclaimer

Terms of Use

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